

# Tasman BioStrategy Submission Analysis

Analysed 30 November 2020 to submission 78

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## INTRODUCTION

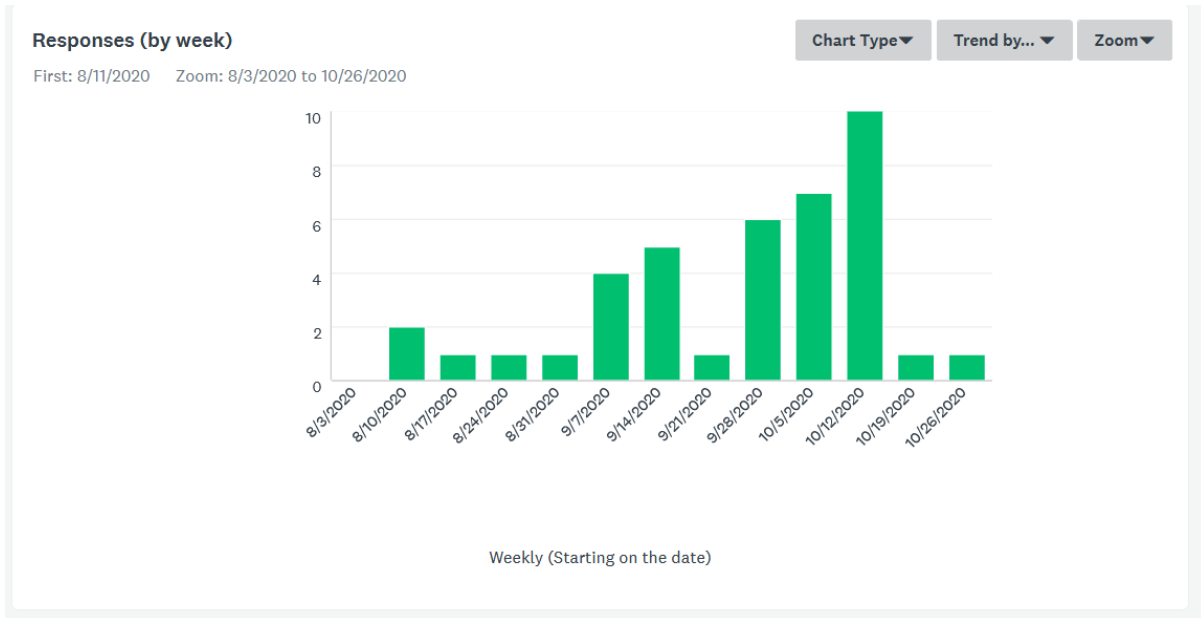
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The Tasman BioStrategy Working Group invited public and stakeholder input to help shape its draft strategy for the region. A Discussion Document was circulated. Comment was received through:

1. An online survey with the 8 questions posed in the Discussion Document.
2. Public and sector meetings where Working Group members made notes.
3. Email and hard copy contributions.

In all 71 documents, some with supporting materials was collated.

The graph below shows the trend over time for the online survey:



All text from the above was collated under headings. Some of the headings came from the structure of the discussion document, some from the survey structure and some from the material itself where people ventured into areas not covered in the Working Group material.

Comments were grouped as follows:

1. Strategy – matters dealing with the form of the BioStrategy
2. Vision – people’s vision for the future of Biodiversity in Tasman
3. Places – identified as well managed or needing more care
4. Biodiversity - well managed or needing more care
5. Issues – things that need to be resolved
6. Building blocks – useful things already happening and good ideas for new things.

In practice there was a lot of overlap in these categories. As a structure for the BioStrategy is developed matters raised through community engagement will need to be mapped onto its component parts.

Each section below begins with a summary of the matters raised and these are reproduced in the consolidated summary below.

## OVERALL SUMMARY

### 1 STRATEGY

Comments supported the geographic and subject matter scope proposed in the Discussion Document. Some sought more specificity and definitions of terms. The Working Group was

challenged to take a systemic approach that integrated ecosystem and social dynamics into a coherent whole.

Few people took up an invitation to comment on the priorities proposed in the Kotahitanga mō te Taiao Strategy. This means that those proposals have not been socially tested with the community.

Many commented on priorities for action. In terms of biota these ranged from the district as a whole to specific sites, species, and ecosystems. Priorities were also identified around the role of tangata whenua and social processes such as education.

Specific comment was made of the role and priorities of the council. These were recognised to be complex.

Reference was made to the role existing information and matters where information is lacking.

Integrating action on biodiversity with action on climate change was identified by many as a core component. This linked to risks from wildfires, changes in rainfall patterns including high intensity rainfall and drought frequency and changes in base sea level combined with storm surges.

A wide range of principles were proposed to guide action on biodiversity and biosecurity. Some commented on a need for the Biostrategy to embrace an holistic approach referencing “integrated landscape function”. Linked to this was a need to respond to national policy frameworks and development of regional policies.

Some sought a “science led approach” and others commented on the value of monitoring progress with measures and observations.

Several wanted the BioStrategy to specify how it would be implemented. Some of these wanted to see appropriate staff and structures developed within the council to support implementation.

## **2 VISION**

Visions for the future encompassed qualities of the natural environment and the social values and activity that would support that future coming about.

People generally wanted a future with a balance that allowed the native biota to flourish while people were able to meet their needs based on imported biota. One school pupil expressed it thus: *My vision for the state of biodiversity in the Tasman Region for 2050 is being able to go out for a 10-20 minute walk and see native birds and trees at least 4-5 times and then using the native species to boost the economy further.*

People spoke in terms of resilience and a mosaic of habitats including restoration of those that had been most modified in the region, such as wetlands. Ensuring appropriate landuse and integration of management of land, water, and sea were seen as fundamental.

Restoration was seen by some to be needed to achieve this vision. This was described at the level of landscapes and ecosystems and also in relation to species. All species that have become regionally or locally extinct or rare are reintroduced and flourish once again.

There was wide expression that the culture of the community has to change to all biodiversity to flourish. *...the people of Tasman have a sense of reverence and reciprocity in regard to the natural world and are acting accordingly.* This was seen to include:

- Leadership where biodiversity and the environment are recognised as being *fundamental rather than perceived as a ‘nice to have’ luxury;*

- Learning as a core process within and between communities;
- Interdependence that recognises *we are of the Earth, te Taiao. Our wellbeing and our health are interconnected with the health of our Earth and its systems;*
- Collaboration that means *together Council, landowners and community groups are protecting and improving the health, spatial extent and ecological complexity of native biodiversity within - land, freshwater and marine environments;*
- Embracing Māori perspectives so that *the Tasman Bio Strategy follows the lead of the recently released Te Mana o te Taiao - Aotearoa New Zealand Biodiversity Strategy 2020, by seamlessly integrating the Māori perspective;*
- Taking proactive approaches to restoration and protection;
- Taking a long view so that *the Tasman region will become a beacon of hope for other regions in Aotearoa because it took far-sighted measures from 2020 to protect its natural environment.*

Some wanted a future free from toxins and others focused on the role of climate change.

### **3 PLACES**

People were asked to comment on places that were well managed and those that needed more care. Some focused on places and others on generic ecosystems such as coasts and wetlands. Section 3 reports comments on places and section 4 on ecosystems and species.

Overall the perception was that, outside some small areas, public conservation land was the core of what is well managed. The Abel Tasman National Park was most cited with frequent reference to the work of Project Janzoon. In this approach base management by the Department of Conservation is supplemented by well organised philanthropic contributions. Some involved funding contributions and others such as the Friends of Flora were predominantly citizen direct action. Others in this family of care were: the Mangarakau Swamp, Health Post at Farewell Spit, Motueka sandspit and estuary, and Waimea Inlet. This approach also applied to some council reserves such as Faulkner's Bush.

Many places were seen to need more management. Examples are:

- NW coast – Whanganui Inlet and its surrounds
- Golden Bay – Waikoropupu Springs and the coastal environment
- Kahurangi – expanding from the Flora to the Arthur range and the Cobb
- Abel Tasman – coastal and nearshore environments
- Motueka – rivers and estuaries and small reserves
- Waimeha – Moturoa/Rabbit Island
- Kawatiri - Alluvial terraces and adjacent low montane slopes
- Mt Richmond – Red Hills.

Some people did not limit themselves to Tasman and commented on areas in the Nelson region.

### **4 BIODIVERSITY**

While most people seemed to relate strongly to specific environments or species, some took exception to this way of approaching biodiversity and biosecurity issues. The suggestion that habitat or species should be singled out in such ways betrays weakness at the understanding of biodiversity in the proposed policy.

People found it easier to think of environments needing more management than ones that were well managed. Well managed environments were seen on public conservation land and where riparian planting has been occurring around rivers and streams.

Most cited as needing more care were coastal and marine environments. A wide range of issues and values were mentioned. Benthic, estuarine, and sea shore ecologies were seen by many as needing restoration.

Many people were concerned about the state of freshwater, wetland, karst and associated riparian margin environments.

A smaller number sought more management for lowland, mountain, and urban environments

Some were concerned about the state of public lands such as road reserves.

Many people sought more care for a wide range of bird genera (9) and groups such as shorebirds. Concern was expressed about native fish, particularly whitebait. Reptiles, bats, and terrestrial invertebrates were noted by some as needing more care. People also mentioned with a focus on Hector's dolphins (though some referred to these as Maui's dolphins).

Only two specific threatened plant genera were mentioned although Tasman has many species on the edge of extinction.

One submission suggested that it may also be useful to acknowledge the role of valued introduced species such as trout and mallard ducks. It is notable that no submissions placed game animals in this category, although this was advocated by some at public meetings.

## **5 ISSUES**

People identified a wide range of issues that the BioStrategy should grapple with.

Climate change was central to many peoples' concerns. Climate change is upon us, and needs to be addressed urgently, both as regards mitigation and adaptation. Our biggest challenge is CLIMATE CHANGE. This should be the guiding premise of ANY and every policy created by all governing bodies. We have a responsibility and a possibility here – we MUST act now and could have a chance to preserve what we have and in time reverse the devastation that has already taken place. People addressed the potential linkages of biodiversity and management with:

- emissions reduction and sequestration
- adaptation and mitigation
- leadership requirements
- potential impacts.

Pests and weeds were the biggest issue identified by people for biodiversity and biosecurity. Amongst exotic mammals most concern was expressed about better management of cats. These were classed along with rats, stoats, ferrets and weasels as biodiversity threats. Goats were also noted as an emerging issue in some places. The exotic insects that drew most attention were introduced wasps. The weeds of greatest concern were vines such as Old Man's Beard and trees such as wilding pines.

A range of land uses were seen as having potential adverse impacts on biodiversity. Most often mentioned was exotic forestry, with some comments also about horticulture and agriculture.

Direct people pressure of concern included development, habitat destruction, population growth, and visitor impacts. The major land uses of exotic forestry, horticulture and agriculture were identified as having a suite of issues in which the effects on freshwater environments was the most prominent. Issues associated with visitors and population growth were also mentioned.

Five specifically marine issues were identified:

- Seabed degradation and sediment impacts
- Vessel impacts
- Fisheries effects
- Noise
- Aquaculture growth.

Freshwater issues were drainage, runoff, and waterway degradation.

Comments about chemicals were polarised. Some sought cessation of a wide range of chemicals perceived as damaging. Others saw an anti-chemical lobby as potentially obstructing effective action on pests and weeds to protect biodiversity.

Many people commented on culture changes needed if biodiversity goals are to be achieved. These included positive or negative aspects related to:

- Trust
- Anthropocentrism
- Economic growth
- Effectiveness of administration
- Eurocentric thinking
- Leadership and governance
- Technocratic thinking
- Kaitiakitanga
- Aligned purpose
- Generational thinking
- Collaboration
- Reliance on volunteerism.

People commented on a need for knowledge about biodiversity and biosecurity and the expertise needed for different aspects. They suggested that economic models need to change if biodiversity goals are to be achieved. Tighter regulation was sought by some while others noted a lack of compliance with current regulations related to biodiversity. Marine reserves were suggested to be an important legal provision in the marine environment.

## **6 BUILDING BLOCKS**

While a wide range of existing initiatives, processes, groups and structures were identified on which the strategy could build, one group took exception to the idea of “scaling up”.

Building engagement and understanding was seen by many as essential. This included: fostering collaboration, providing education, disseminating better practices and incentives.

Many existing programmes were cited as potential building blocks including:

- Kotahitanga mō te Taiao initiatives
- Department of Conservation programmes
- Golden Bay weed control – Project De-Vine
- A broad range of planting programmes including those under Jobs for Nature
- QEII covenants
- Native Habitats Tasman
- Nelson Tasman Climate Forum and Strategy
- Cycle ways

- A wide range of local initiatives
- Maori land programmes
- Philanthropic programmes
- Private enterprise initiatives
- Rivers /freshwater
- Marine
- Sanctuaries
- Council programmes

A wide range of methods were proposed to support biodiversity and biosecurity action. These included:

- Research and monitoring
- Funding
- Cultural
- Wildlife corridors
- Protected areas
- New technologies
- Riparian protection
- Land acquisition
- Soft tech
- Integrated planning
- Enabling landowners
- Education
- Resource Management Act tools

# 1. STRATEGY

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## ANALYSIS

Comments supported the **geographic and subject matter** scope proposed in the Discussion Document. Some sought more specificity and definitions of terms. The Working Group was challenged to take a systemic approach that integrated ecosystem and social dynamics into a coherent whole.

Few people took up an invitation to comment on the priorities proposed in the **Kotahitanga mō te Taiao Strategy**. This means that those proposals have not been socially tested with the community.

Many commented on **priorities** for action. In terms of biota these ranged from the district as a whole to specific sites, species, and ecosystems. Priorities were also identified around the role of tangata whenua and social processes such as education.

Specific comment was made of the role and priorities of the **council**. These were recognised to be complex.

Reference was made to the role existing **information** and matters where information is lacking.

Integrating action on biodiversity with action on **climate change** was identified by many as a core component. This linked to risks from wildfires, changes in rainfall patterns including high intensity rainfall and drought frequency and changes in base sea level combined with storm surges.

A wide range of **principles** were proposed to guide action on biodiversity and biosecurity. Some commented on a need for the Biostrategy to embrace an **holistic** approach referencing “integrated landscape function”. Linked to this was a need to respond to national policy frameworks and development of regional policies.

Some sought a “**science** led approach” and others commented on the value of **monitoring** progress with measures and observations.

Several wanted the BioStrategy to specify how it would be implemented. Some of these wanted to see appropriate staff and structures developed within the council to support **implementation**.

## 1.1 GENERAL

The document clearly states the BioStrategy purpose; that it seeks to integrate biodiversity and biosecurity, with goals driving actions beyond what can be achieved under the TRMP and Regional Pest Management plan. This appears to be a sensible approach to district wide co-ordination. To support the community priorities, which may change over time and/or need to consider an incursion of a pest not currently identified, the strategy must be a living document owned by the community. However, to achieve a true regional approach with real community support for the Biostrategy, it must be a more inclusive and balanced document. Very emotive language is currently used, and it does not read like a strategy but more like a publication from an environment group. It must be stated more clearly, and in the introduction, that the Biostrategy is non-statutory. Given the plethora of plans and strategies, the position in relation to these other documents and non-legal status must be clear. Biostrategy community ownership is preferable from a funding perspective:

- If it is council policy, then priorities and funding are ultimately controlled by council rating policy and council would be the decision maker for all projects.

- It would be more effective to have council enabled to be a contributor to a community owned strategy, to be able to contribute funds to projects where ratepayers have legislated responsibility for some level of funding. This method better supports wider community/business partnerships and reduces risk of rates funding being a handbrake to a to a community goal.
- It would be more effective considering the marine area to be community owned; as councils have limitations in that space, other regulation applies, and expert input is needed in both recreational and commercial fishing/aquaculture.

A role of the Biostrategy is being the key connector/link from all relevant legislation and existing strategies to the TRMP. It must be adaptable as any such documents change - it must be open and living.

To enable alignment with the Kotahitanga mō te Taiao Strategy, (noting that strategy has been agreed by the councils of Te Tai Ihu) and which has stated its own review process, independence from TDC policy may advantage community ability to adapt to any changes in the Kotahitanga mō te Taiao Strategy.

By seeking the community's input so the Biostrategy reflects people's wisdom, needs and perspectives more clarity is needed, particularly when it comes to implementation:

- How we will prioritise when aspirations may differ?
- How we will discover the quick wins?
- How will we ensure the Biostrategy supports affordable action?
- How will the Biostrategy be prevented from flipping into a regulatory indiscriminate sledgehammer in the TRMP refresh?

Climate change is discussed in the document. This issue alone highlights why the strategy must be a living document. Climate change may challenge the best biodiversity efforts.

## 1.2 SCOPE

### 1.2.1 General

- Clarity over the purpose, scope and status of the strategy is essential. Part 4 of the discussion document is woolly.

### 1.2.2 Geographic

- I agree with it including Land and Sea. The native species in the sea are no different to our natives on land and need protection.
- A clear map showing the extent of the Tasman District, the priority areas, conservation estate boundaries etc.
- The focus should be on Tasman rather than the whole Top of the South, although that provides relevant context.

### 1.2.3 Systemic

- Better understanding of the links between social inequality, industrial food production, bureaucratic barriers, conspicuous consumption and how these affect biodiversity loss. It is not just about looking at habitat restoration in isolation from all other factors of Western lifestyles, which contribute to biodiversity loss here and elsewhere

#### 1.2.4 Ecological

- The focus in the discussion doc is on animals and plants - The focus also needs to be on the general biota, fungi, insects etc as well

### 1.3 PRIORITIES

#### 1.3.1 Overall

- Having an integrated strategy to ensure that we work on the most important areas/species as a priority. This will achieve coordination to achieve more with the same level of input and potentially attract more funding and drive greater outputs.
- I SUPPORT the overarching integrated priorities as stated on page 10. This provides for a strategic road map which is to be followed in the production of this BioStrategy. Integrated priorities for biodiversity and biosecurity
  - a. Halt and reverse the decline of native biodiversity.
  - b. Reduce harmful species impacts on natural and productive ecosystems.
  - c. Ensure integrity of ecosystem services and natural capital.
  - d. Improve environmental outcomes through increased community awareness.
  - e. Anticipate and prevent, contain, or mitigate future risks.

Unfortunately the information in the consultation document does little to indicate that there is a clear direction to attaining these priorities from the “community”. See also Section 2 of my comments.

Priorities: includes a map for Kotahitanga mō te Taiao Alliance: Top of the South, as well as a list of 6 different parts of the area. Does the map actually relate to these areas? This is far from clear.

This section also includes (page 10) the Biosecurity and the Integrated Priorities for biodiversity and biosecurity. As noted above I support the integrated priorities, but these do not appear to relate specifically to the Kotahitanga mō te Taiao Alliance or to the 6 areas. I presume the draft key priorities listed under those headings have been compiled with advice from experts in these areas.

It is disappointing that the document contains no formal definitions of Biosecurity or Biodiversity. This should include at the very least reference to the Convention of Biological Diversity (CBD) to which Aotearoa/NZ is a party. The Consultation Document makes no reference to natural landscapes and the need for these to be protected and maintained; nor any reference to the “precautionary principles”.

Additionally the wording is frequently imprecise and “woolly” - this can only lead to lack of clarity about what is meant. All priorities that are defined in specific areas must always be checked to ensure compatibility with the Integrated Priorities. My comments are in bold italics under each of the area (which do not appear on any map?)

- Developing a Tasman Biostrategy seems a quite complex challenge from the outside. The TDC Briefing document says it will span: · Restorative management of indigenous biodiversity; · Humane and sustainable management of biodiversity and unwanted organisms such as pests and weeds; · Humane and sustainable management organisms used to benefit people; and · The cultural elements of tikanga Maori relevant to Te Taiao. Bullet points 3, 4 and part of #2 above seem to me to about 'how' a BioStrategy is to operate

(humanely, sustainably and making use of some tikanga Māori elements). If that is correct, then what is sought is a strategy to: Maintain and/or restore most valued indigenous ecosystems and their component species; Prevent, suppress even eliminate regionally most harmful (to indigenous biodiversity, commercial production, and amenity species) pests, weeds and other organisms. There are limited resources available to achieve those two related goals, so prioritisation is essential. The crucial feature of a successful strategy are the actions pursued. The Tasman Biostrategy should outline the high priority actions to be undertaken to achieve goals 1 and 2 above. The report by Leathwick (2019) reports how areas of indigenous biodiversity/rivers and streams can be ranked on contribution to representativeness, but does not say anything about actions, or payoffs expected from actions. I suggest that Tasman needs a list developed of possible actions to achieve goals 1 and 2. That approach is followed at national level in Joseph, Maloney, Possingham (2009). [HTTPS://PUBMED.NCBI.NLM.NIH.GOV/19183202/](https://pubmed.ncbi.nlm.nih.gov/19183202/)

- Further consideration and transparency over the priorities identified in the Kotahitanga mō te Taiao Strategy which were not developed with community involvement.
- There is also a need to identify priorities for the District as a whole, rather than just regions within it.
- It is important to carefully prioritise what actions to take, and where, so that the region can make the most efficient and effective response.
- Given the urgency of the situation, the widespread nature of the effects of climate change across ecosystems and landscapes, the fact that Tasman is a biodiversity hotspot (with many species unique to the region) and limited resources available to DOC, TDC, community groups etc, it is important to carefully prioritise what actions to take, and where, so that the region can make the most efficient and effective response. This will require integrating a range of data/information sources from varied sources (including local Maori knowledge). The resulting information will be useful guide for actions by TDC, community groups, iwi and individual landowners.
- Developing a Tasman Biostrategy seems a quite complex challenge from the outside. The TDC Briefing document says it will span:
  - Restorative management of indigenous biodiversity;
  - Humane and sustainable management of biodiversity and unwanted organisms such as pests and weeds;
  - Humane and sustainable management organisms used to benefit people; and
  - The cultural elements of tikanga Maori relevant to Te Taiao.

Bullet points 3, 4 and part of #2 above seem to me to be about 'how' a BioStrategy is to operate (humanely, sustainably and making use of some tikanga Māori elements). If that is correct, then what is sought is a strategy to:

- Maintain and/or restore most valued indigenous ecosystems and their component species
- Prevent, suppress even eliminate regionally most harmful (to indigenous biodiversity, commercial production, and amenity species) pests, weeds and other organisms.

There are limited resources available to achieve those two related goals so prioritisation is essential. The crucial feature of a successful strategy are the actions pursued. The Tasman Biostrategy should outline the high priority actions to be undertaken to achieve goals 1 and 2 above. The report by Leathwick (2019) reports how areas of indigenous biodiversity/rivers

and streams can be ranked on contribution to representativeness, but does not say anything about actions, or payoffs expected from actions.

I suggest that Taman needs a list developed of possible actions to achieve goals 1 and 2. That approach is followed at national level in Joseph, Maloney, Possingham (2009).

<https://pubmed.ncbi.nlm.nih.gov/19183202/>

#### *Abstract*

*Conservation funds are grossly inadequate to address the plight of threatened species. Government and conservation organizations faced with the task of conserving threatened species desperately need simple strategies for allocating limited resources. The academic literature dedicated to systematic priority setting usually recommends ranking species on several criteria, including level of endangerment and metrics of species value such as evolutionary distinctiveness, ecological importance, and social significance. These approaches ignore 2 crucial factors: the cost of management and the likelihood that the management will succeed. These oversights will result in misallocation of scarce conservation resources and possibly unnecessary losses. We devised a project prioritization protocol (PPP) to optimize resource allocation among New Zealand's threatened-species projects, where costs, benefits (including species values), and the likelihood of management success were considered simultaneously. We compared the number of species managed and the expected benefits gained with 5 prioritization criteria: PPP with weightings based on species value; PPP with species weighted equally; management costs; species value; and threat status. We found that the rational use of cost and success information substantially increased the number of species managed, and prioritizing management projects according to species value or threat status in isolation was inefficient and resulted in fewer species managed. In addition, we found a clear trade-off between funding management of a greater number of the most cost-efficient and least risky projects and funding fewer projects to manage the species of higher value. Specifically, 11 of 32 species projects could be funded if projects were weighted by species value compared with 16 projects if projects were not weighted. This highlights the value of a transparent decision-making process, which enables a careful consideration of trade-offs. The use of PPP can substantially improve conservation outcomes for threatened species by increasing efficiency and ensuring transparency of management decisions.*

- I am making this submission as a private individual, but also as a university trained biologist in marine botany, with a long involvement with multiple organisations that have a conservation and environmental sustainability focus. I am now retired from professional work but maintain an active membership and activity with several such groups on a voluntary basis. I am passionate about the splendour, variety and sheer beauty of the natural world, and want to see others share in this same sense of wonder and awe at the magnificence of the place we call home. However, I am also deeply worried about the future and what our legacy will be for the generations to follow us. There is absolutely no doubt that planet earth is undergoing a marked decline in ecological stability and degradation of the life support systems on which all life forms depend. As humans, we are facing an environmental crisis with the natural world in steep decline. This human-driven destruction of the natural world with the inevitable extinction of species is happening daily, but imperceptibly on the short time scale that most observers turn their attention to. Combined with rapid climate change as a result of carbon dioxide accumulation in our atmosphere, which

is also anthropogenic, most species that have evolved over millions of years under more favourable and stable climatic conditions are struggling and many will not survive. It is in our interests as humans, the dominant, most highly evolved species and the supposedly smartest on this planet to act with determination and real commitment to halt and reverse this decline as a matter of urgency. Failure to do so threatens our own survival as a species, and indeed, life as we know it on this planet. Accordingly, I would like to see Tasman District Council show real commitment to an overarching policy of sustainability in all of the council's wider deliberations and more narrowly focused, specific policy initiatives and statements, wherever feasible. We are fortunate to live in one of the most diverse natural environments in this country which has overall a great range of physical environments and ecosystems. This is exemplified by the inclusion in our territory of three quite distinct National Parks, valuable as wild places for recreation but fundamentally as habitat for and repositories of a wealth of indigenous and endemic species. However even in these environments, there can be seen adverse modification by humans. The task of correcting these environmental mistakes is huge, but small purposeful and strategic steps taken now and continued with over the years ahead can make a difference, and with dedication through funding allocation to completing the challenge, turn things around. The following specific initiatives are ranked in approximate order of importance, although the interconnectedness of ecosystems and their interdependence makes it hard to prioritise. All are important and deserve practical intervention and addressing, with some easier to make progress on than others. Not all require substantial funding and some are already being tackled by dedicated volunteers. Support for these groups and individuals in both monetary and non-financial terms would be a very good starting point. TDC does not have a good track record as a visionary body with a firm commitment to environmental sustainability. Worse still, those policies and regulations it does have in place are poorly monitored – if at all. Compliance enforcement is minimal to non-existent in far too many cases. This has to change, if these policies are to be anything other than empty words.

- On page 9 the Nelson Tasman Regional Pest Plan appendix is noted. Looking at that five-page list an assessment of how the “Organisms of Interest” align with the Kotahitanga mō te Taiao Strategy is essential. To understand what inclusion of topics means in the strategy further assessment of impacts/support needs to be provided. Ideally this would encompass feedback from DOC. Are there matters not covered by the iwi strategy and the Pest Management Plan appendix? Are there different priorities? Are there projects and funding in place that the Biostrategy needs knowledge of in considering how to prioritise? Integrated priorities for biodiversity and biosecurity (bottom of page 9) should perhaps be called objectives. The term priorities is used multiple times and again clarity is needed. Additionally, are these integrated priorities to be read in that order i.e. are they ranked; and who has determined that the order is correct? Overarching priorities/objectives should be at the start of part 3, not at the end.

### 1.3.2 Māori

- Ensure that Te Ao Māori values and taonga are appropriately incorporated into the identification and prioritisation processes, and in the design and implementation of any follow-on programmes and actions.

- I do not believe cultural or spiritual beliefs of any race should be the basis of the BioStrategy. It should be driven in this day and age by science.

### 1.3.3 Threatened species

- In relation to the priorities for NW Nelson, we are puzzled that threatened fauna are not included.
- Blue duck, habitat and social awareness

### 1.3.4 Ecosystems

- The alpine, karst and underground ecosystems are special features of this area and should be acknowledged.
- The focus should be on areas with high numbers of special species and ecosystems.
- Protecting our most vulnerable ecosystems, to ensure there is no loss of biodiversity and provide best value for investment with multiple benefits?? (including carbon sequestration, heat sinks and ecosystem protection).

### 1.3.5 Existing information

- Building on existing resources and information on biodiversity priorities in the region (e.g. the Leathwick report to TDC, July 2019) to understand which locations and ecosystems (and species, if possible) are most vulnerable to climate change, and thus where actions on the ground and at policy level could have the most significant positive impact on ecosystem resilience for the future.
- Lack of appropriate information and scientific knowledge e.g. soil types for particular indigenous species to ensure survival; correct planting procedures and follow-up maintenance/replacement.
- Information on how particular ecosystems will encourage the return (or translocation) of particular species e.g. the importance of caves/niches for penguins or cave spiders, land snail habitat and particular threatened species: for instance kiwi (both little browns and great spotted), takahe, banded rail, land snails etc.

### 1.3.6 Climate change

- Include identification of areas where ecosystems and species under pressure can retreat to (e.g. inland migration of coastal/estuarine habitats; southerly/upward migration of species threatened by rising temperatures).
- Linking these actions with incentives for carbon sequestration (offsets) where this is possible and investigating funding options to support this.
- Climate Change Mitigation.
- We are now getting almost daily, forceful indicators of the global change in climate patterns. Most recently here in NZ, wild fires raging through scrub, grasslands and forests have caused devastation, with the Lake Ohau fire following on from the Pidgeon Valley fire here in Tasman. We need comprehensive survey of the fire risk status of districts throughout the whole region and based on this, planned action to reduce or combat this risk. In many cases this will involve ensuring 'compartmentalisation' of the highest risk areas. In exotic forests, there must be good firebreaks maintained at appropriate intervals. Where this is privately owned land, council must have the authority to require this work to be carried out satisfactorily to the required standard on an ongoing basis. Flood protection from rivers is well established, but some stop banks will require further work to provide protection from peak events which are likely to occur more frequently. Shoreline erosion is happening now

along the exposed coastal margins in both Tasman and Golden Bays and even in estuarine areas. The most pressing of these such as at Parapara and Pakawau in Golden Bay need addressing with engineered solutions such as deployed along the Ruby Coast north of Mapua.

#### 1.3.7 Restoration

- Identify where revegetation (and/or control of invasive species, or other actions) for carbon sequestration can be most effective.
- Fostering revegetation at scale
- Providing buffer zones and habitat extension for vulnerable fauna, including invertebrates;
- Expanding plantings on council land and DOC reserves, using appropriate eco-sourced indigenous species. In urban areas these could include a wider range of bird-friendly, edible and medicinal plant species.
- Seed collection and storage of at-risk indigenous plant species, enhancing facilities and storage processes for use in revegetation programmes.

#### 1.3.8 Biosecurity

- Control of biosecurity threats that may adversely affect biodiversity and ecosystem resilience, as these appear with our changing climate.

#### 1.3.9 Wildfire

- Prioritising prevention and control of wildfires in all ecosystems on public and private land.

#### 1.3.10 Sediment

- Limiting sediment loss from land-based activities such forestry and new developments, to prevent sediments from flowing into estuarine and marine ecosystems, including vulnerable microbial and micro-algae communities.

#### 1.3.11 Engagement

- Communicating with our communities, to provide and exchange information on climate change related threats to biodiversity, their importance and how biodiversity and ecosystem enhancement contributes to the resilience of our region, (planet) and society, and practical actions that can make a difference by individuals, whanau and communities.

#### 1.3.12 Community wellbeing

- Possible integration of local livelihoods with ecological restoration (e.g. community nurseries, manuka/kanuka plantings for income and regeneration)

#### 1.3.13 Lowlands

- Forget the land that is still in native and focus on the lowland, the grey bit on your map of priority areas. But leave the species you call pests alone, they are not a problem.

#### 1.3.14 Holism

- Why scale up something that is successful and ignore other areas?
- The second threat also relates to policy failure. The current discussion document delivers a flawed vision, offering only small-scale, 'project based' biodiversity 'remediation,' without any understanding that all biological systems are linked, and that 'protection' of this or that species, or this small pocket of native bush, guarantees nothing. Worse: it sets all projects into competition with one another, as if one were somehow 'more urgent' than others, or one species 'more valuable.' Related to this is the degree to which community volunteers

doing biodiversity 'project' work-declining in number with the aging of baby-boomer pro-environment cohorts and the 'lean years' multiple-employment of the post-COVID workforce -are wasting time which could go directly to environmental work, on writing grant applications and reports to funding bodies -not least to TDC, which risks creating a mini-bureaucracy in the biodiversity zone. While data and reporting are important and necessary, they need to be streamlined, part of an everyday for all, and available on open, self-entered electronic data bases. The 'dashboard' of achievements and concerns should not be a tool of senior management, but a public display for all citizens to review -in turn, driving their sense of what is urgent, and how they might contribute.

- These questions [about places] alone suggest that TDC is caught in an ecological time-warp: that it sees biodiversity as about 'projects,' and 'small parks,' or 'well-managed properties.' It sees some places as 'more important' than others -despite the problems such vision has caused in the past. 'Well managed habitat' and 'important places' do exist -but they exist only in their own location. They are specific to it. You can waste a lot of time admiring them - because they cannot simply be replicated, somewhere else. Nor will their 'management model' apply, without extensive adaptation, to other habitat. Biodiversity isn't about one-size-fits-all. It is not possible, or desirable, for any single model to be lifted away from its context and applied somewhere else. Biodiversity tailors to its locale -that's why it is called biodiversity. It indicates that nature is, by definition, about adaptation and difference. Habitats and species adapt -and a regional management body such as TDC must also confront this perspective. Standardisation, or funnelling biodiversity project work through single-model management platforms, restricts what is possible, and so repeats the problems already caused by our exploitation of the natural environment. Biodiversity must be considered holistically, or else it undermines its own principles.

#### 1.4 PRINCIPLES

- Do no harm – ensure all climate mitigation actions and solutions enhance biodiversity and ecosystem resilience, rather than compromise or impede resilience;
- Prioritise the protection and restoration of our most vulnerable ecosystems and biodiversity, and biodiversity corridors across the landscape;
- No further loss of ecosystems or indigenous biodiversity with active restoration;
- Support opportunities for carbon offsets, especially if they also value and create incentives for ecosystem and biodiversity enhancement;
- Evidence-based science and Mātauranga Māori serve as the foundations to ecosystem and biodiversity related actions and decisions;
- Prioritise local knowledge, information and actions that make the greatest difference to the desired positive outcomes for ecosystems and biodiversity, for the planet and people
- Recognise interconnectedness of all ecosystems and understand the impacts of activities in one system on the conditions in connected systems, e.g. restoring waterway health improves estuarine and coastal health.
- Recognise the Kaitiaki role of Manawhenua iwi in Te Tau Ihu (Te Ātiawa, Ngāti Rārua, Ngāti Tama, Ngāti Koata, Ngāti Kuia, Ngāti Toa, Rangitāne, Ngāti Apa) and Ngāti Waewae of Ngāi Tahu.
- There are many habitats, populations, and species that need care. Not all are native, but they are part of my reality and I value them. What we need is a different ethic, one that respects and does not try to control the environment.

- Four principles for a biodiversity/biosecurity policy for Tasman Biodiversity policy needs to build around :
  - a. Te Ao Maori values, as First Nation guardians of the natural world, with highly developed understandings of how the whole system links human health to environmental health.
  - b. DoC policy, since DOC manages the bulk of Tasman Lands, and itself has a biodiversity policy integrated in ways the TDC plan has failed to achieve. Consider DOC's phrase: 'From the mountains to the sea.' It captures Tasman's ecology perfectly. It is memorable, and it provides a platform for local biodiversity work and planning, onto which everyone can project. So what is TDC's slogan? What is 'brand bio-Tasman?' How could we build something equally compelling, that defines us as a bio-secure and bio-diverse world, unwilling to compromise on our natural environment?
  - c. TDC's own active role in biodiversity/biosecurity management. TDC's role is to manage two things: habitation, and production. It is these activities that need a new biodiversity/biosecurity emphasis. Biodiversity policy needs a section which considers and outlines how every one of TDC's regulatory roles is impacted upon by biodiversity and biosecurity principles. Without such a section, 'the community' cannot see a Council with any true commitment to these ideals. Nor can it see clear pathways to the sorts of community work and self-management of their own lands and/or recreation in public spaces, which admit biodiversity values and consider biodiversity outcomes. What is the value of biodiversity work, if TDC practices fail to consider the downstream consequences of other forms of use and/or development? Where are the guarantees, in TDC's own response and planning for biodiversity, that such consequences will always be considered?
  - d. Communicating biodiversity/biosecurity values and practices. Finally, the policy must address how to communicate these values, by word, by image, and by action. It must project these values and associated practices outwards, to mark Tasman as a pro-biodiversity region, and to show that at work. Finally, it must commit to these principles and practices across time, with procedures and operational planning in place, to track progress towards preserving and restoring what makes us distinctive.

Finally, the policy must address how to communicate these values, by word, by image, and by action. It must project these values and associated practices outwards, to mark Tasman as a pro-biodiversity region, and to show that at work. Finally, it must commit to these principles and practices across time, with procedures and operational planning in place, to track progress towards preserving and restoring what makes us distinctive.

## 1.5 POLICY

### 1.5.1 General

- The major threat is lack of a coherent biodiversity/biosecurity policy, and especially one which is not sustained through time, because it is not fully 'owned' by TDC itself, to the extent of informing all its policies and practices, across all its service delivery operations. Biodiversity as a value and TDC's policy as a guiding principle and a set of practices and processes must be accepted and followed by all Tasman residents, businesses and landholders, who feel assured that such policies will remain stable, across these and following decades. Only once those questions are considered, will the size and scope of a

policy on biodiversity/biosecurity become clear. Fail to ask those questions, and the policy, no matter how noble in its intent, remains inert.

- So, a bit of thought ..... why does biodiversity matter? Unfortunately, biodiversity is saddled with a “nice to have” image problem. It has too many syllables for a start. Too technical. It smacks of things that are ‘nice’, but ... A few nice birds in the home garden, some trees, a stream. We don’t think of ‘biodiversity’ as the planet’s ‘life-support system’, and yet it is just that. We breathe it, eat of it, play in it, and it cleans up after us. Remove the rivets one by one to serve the little gods Expedience and Efficiency (don’t get me started – bulldozers are ‘more efficient’ than shovels to ditch a stream; so tell me how that is ‘better’?), and you end up creating fragility. You’ll break more easily. Doubly bad, you will be less likely to see any threat coming. And when surprise comes – which it will (even though that also is not in the spreadsheet) – the loss of one rivet inevitably cascades, like a wildfire leaping. And biodiversity isn’t just a few birds. It’s the landscape systems connected from mountain, hills, soils, streams, coastlines, and continental shelves to the deep ocean trenches. It connects from native forest to farm field to city street, and through the pulse of seasons, good years and bad. Soils and their biology who hold and filter the rain, keeping the streams flowing and filled with life, the pulsing flow of energy that feeds and shelters throughout the year, that reproduces and disperses. The springs and streams where caddis, koura and cockabullies’ roam, and kids try to catch them. We as humans are a part of it, integral to it. It isn’t some new age spiritualism to say, ‘the land is us and we are the land’. It’s a biophysical reality of health and wellbeing. We’ve diminished ‘biodiversity’ by thinking of it as ‘over there, beyond the fence’ instead of around us all, across our landscapes, within ourselves, integral. We’ve jumped at a Modern Cartesian dualism, beloved of High Modern Treasury and preservationists, to put cultureless ‘nature’ over one side of the fence, and cultureless and nature-less commerce over the other side. An industrial Tolkien Mordor and over the fence a Wilderness (sans Elves of course). We’ve also diminished it by thinking of biodiversity not within a wider concept of space and time, but as merely some patch of bush, a thing, a noun, a structure, perhaps a bird, and where only ‘indigenous’ species may apply. Biodiversity is far more about connected flow and flux than ‘thing’. It is verb and function more than native patch or bird. A better biodiversity means accepting integrated landscape function as the important lens through which we see. And that lens means introduced species, the so-called “working lands” and human spaces and systems as part of the whole, both as functional providers on the one hand and pest disrupters to those functions on the other. Those presumed to be human spaces are also a part of this landscape system. Our cities are critical to autumn and winter feed for birds; nectar, insects and fruits. And the health of our farmscapes, forests, woodlands, wetlands and healthy soil ecology (not a hydroponic medium for a crop) and homestead plantings are critical to soil and stream functions, and provide the habitat from invertebrate to ‘charismatic megafauna’ (aka tui, kereru and such). A healthy biodiverse New Zealand requires us to see through this wider landscape scope, not just a few native reserves– which might well be oases within a landscape desert. Reserves areas are important, but the imperative is to create a healthy whole, a connected functional landscape of healthy cities, healthy farmscapes, healthy landscapes, and native reserves. A healthy biodiverse New Zealand also requires us to realise our connections, and accepting that we are – hopefully and imperatively – shifting from a dull-of-thought Age of Expedience to a wiser Age of Responsibility. Back to integrative and moral thinking, where opportunities lie in plain sight, and the vulnerability to threats fall away.

### 1.5.2 National Policy

- This strategy acknowledges and supports the existing National Policy Statement on Indigenous Biodiversity (under development in 2020), the Kotahitanga mō te Taiao Strategy, the Nelson City Council Biodiversity Strategy and the Tasman District Council Biodiversity Strategy (under development in 2020). We seek not to replicate these strategies, but to build on them by focusing our efforts on specific actions in priority areas/locations/ecosystems that will make a difference as regards:
  - ecosystem resilience in the face of climate change impacts (both direct impacts and those caused indirectly by human adaptations to climate change), and
  - ecosystem related actions that can provide climate solutions (including carbon sequestration).
  - The strategy also needs to align with that of the land use/agriculture, food and fibre subgroup to maximise biodiversity resilience across both the conservation estate and productive land.
- The Tasman Bio Strategy should follow the lead of the recently released Te Mana o te Taiao - Aotearoa New Zealand Biodiversity Strategy 2020, by seamlessly integrating the Māori perspective.
- With legislation changing all the time to appease humans I do not see a great future
- The major uncertainty in the area of biodiversity/biosecurity planning is the collapse of the current RMA -under which this policy process was begun. To that extent, it is laudable that TDC is continuing its policy development -however, some degree of transparency is required during public/community consultation, in relation to how TDC views likely outcomes as the RMA is re-worked -especially under post-COVID conditions. Without a strong, and clear, view on this, Tasman risks abandonment of all biodiversity/biosecurity gains, confronted by collapsed or suspended environmental review, as infrastructure projects, 'shovel-ready' work relief, and fast-track development applications push forward. Community Consultation needs to be upfront about this, and include consideration of the Strategic Planning Act and its principle of 'Spatial Planning', with urban, agricultural and industrial 'zones,' and the Natural and Built Environments Act, considering urban development, and urban, rural and marine environments. In the current absence of clear consensus around how these sorts of development and regional special zoning will occur, it makes little sense to collect a list of 'special places' for biodiversity -TDC's current approach in relation to community consultation. Quite simply, these 'special places' may not prove to be special at all, once other criteria are in play. Further: since the larger-scale 'zoning' of the new Acts is likely to prevail, why not consider it now, and ask Tasman communities to consider whether it might endanger biodiversity gains? There are three ways forward.
  - 1 Consider broad zones of development, as Nelson City Council is doing, albeit with a much smaller landmass. This will move us beyond the problematic 'patchwork' approach of old-school 'enclosure' environmental 'protectionism,' and into a more holistic style of planning and environmental management.
  - 2 Consider the two heirs to the RMA currently proposed. Together, these give us clues to what may emerge -and so how to array biodiversity values and practices into a future management regime.
  - 3 Acknowledge the reality of Tasman as a region: one far more heavily occupied than most by National Parks, and with key horticultural, forestry and fisheries roles to protect.
- Tasman's discussion does not need to be about 'What is biodiversity and why is it important?' These are debates which are largely now over, and which have achieved broad

consensus -including within primary industry, where environmental planning is integrated into many of their operations. Instead, biodiversity/biosecurity debate should now be around which zones are crucial to primary production, which to recreation, which to urban/semi-urban business, and which to residency. There is far too little discussion in this document about biosecurity: the preservation of productive land and water resources. Until policy acknowledges the importance of this, and sets policy to ensure a pro-biodiversity best-practice operation, the usual piece-meal 'solutions' will be all that can be achieved. Finally, but crucially, the policy says nothing about how the values espoused in the document are to be promulgated to all; made flexible as new demands or crises emerge; kept consultative, so that all are involved in decision making, and are arrayed across all TDC operations. There is no mention of the degree to which data, now so readily generated from all regional activities, can be used to analyse progress towards biodiversity protection. There is no way of linking biodiversity understandings into education of future Tasman citizens, or into recreational activities using the natural environment, or how to connect biodiversity work with new forms of voluntarism. The 'barriers,' in other words, all relate to the limited vision achieved to date in the policy.

### 1.5.3 Other strategies

- We need to use other Strategies as a base document - don't try to write a new Strategy. Why don't we use NCC's was Julian's question? Highlighted the need to align with Te Taiao - air, water, soil, the natural world. Use the Motueka ICM model, take learnings from that and use it to determine how to go fwd. Actions and projects must be local, local input, local co-ordination. TDC to enable but not to lead

### 1.5.4 Recombinant ecology

- Habitat does not need management. The best habitat is unmanaged, the weedy edge of the Motueka (beginning to be destroyed by sterile plantings), the recently destroyed 'amenity' stands in the plantation forest along Valley Road, the hillsides of broom and barberry and bracken (amongst others). The management of habitat is, by and large, ecologically ignorant as far as I can see, and driven by nostalgia for a world never seen and not remotely recoverable that gains its energy from deflecting the destruction we have caused and continue to cause onto species we deem our enemies and have declared war on.

### 1.5.5 Science led

- We need a science-led approach to this to achieve the best strategic benefit and considering cost versus benefit. Yes, help people with their favourite spot to some extent, but not be led by that. Education needed to help drive the best strategic outcomes.

## 1.6 LANGUAGE

- It is vital that the Strategy does not shy away from calling pests pests.

## 1.7 MEASUREMENT

- Progress towards identified goals needs to be measured. This monitoring must be carefully designed so that it measures what has been achieved (outcomes) rather than the work which has been done (outputs). These results should be discussed with the partners to determine whether changes are needed to the work programme. This monitoring is most

essential and most difficult with those projects involving pest control as the outcomes from this work are not always predictable and should not be taken for granted.

## 1.8 IMPLEMENTATION

- Council needs to ensure that it has well qualified, competent staff involved in these partnerships. The staff need to have a strong biological and ecological understanding as well as the ability to communicate well. And yet there must also be recognition of the need to step back and respect the autonomy of landowners and rural groups that prize their independence. I imagine that such staff need to maintain a network and profile nationally - learning what works and what doesn't. All of this takes a certain maturity and is essential to the success of implementing the strategy. Communication between individuals and between community groups is something Council can foster. The Tasman Nelson Conservation Volunteers Newsletter is a current example but there is potential for a lot more value to be added by way of learning rather than just reporting on outputs. One example of this could be for Council to facilitate one community group hosting another in the field - a chance to share knowledge and swap lies - and to feel part of the bigger picture. As part of this exercise it would be valuable for Council to consider examples from the community where previous or existing partnerships have been successful. For example - Operation Devine or Save our Banded Rail. Have they been successful? If so, there may be inherent characteristics of these groups that could be encouraged with others.
- A stretch of the Wai Iti river at the end of Barton Lane was well planted and should have been a well-grown riparian stretch by now. Instead because of neglect many of the trees outgrew their covers, a flood went through knocking many of the trees over and filling the covers with hard packed silt. At least 50% of those trees died. With the right care most of the covers would have already been removed thus not trapped silt and after the flood the trees stood up again. The loss of trees was entirely due to neglect, not the flood. Volunteers have now picked up this project. An area by the Waimeha estuary behind Solly's yard was well planted then totally neglected, the covers left on well-grown trees and long grass pulling them over. The sea came up once and killed a few but was not the cause of most dying. Neglect killed 60%. Concerned individuals are now looking after the surviving trees. The bed of the stream coming off the Richmond hills from Will's Gully and flowing down Pine Crest Drive and Fairrose Drive was designed to curve reasonably naturally and has a wide riparian margin but work stopped there. A few flaxes were planted but most of the stream has no shade and is overcome with weed growth. The entire stream should have been shaded with native trees. What was the plan for this stream? A member of the public alerted the council about a willow growing in the stream bed and it was removed by the council.
- The final threat relates to the absence in the discussion document as proposed, of any address of the implementation phase of a biodiversity/biosecurity strategy. Without considering those matters up-front, it is impossible to see how biodiversity/biosecurity will actually become part of TDC's governance remit. How will TDC itself position biodiversity/biosecurity planning and action, inside its own day-to-day operations? What will it mean for Building Inspectors? Permit Applications for recreational users of public spaces? Refuse Collection contractors? What sorts of institutional cultural change will be required, to place biodiversity/biosecurity values at the core of all operations, to see them prioritised by all elected officers, and to make them part of all Council reporting practices? How will these sorts of cultural change be integrated into Council staff and elected officer training?

## 1.9 SCALE

- The strategy does not acknowledge the scale of the problems, and without this recognition, it is unlikely to make a significant difference. There is a need to move beyond small project around the edges, to fundamental change. Where are the ideas and resources for action?

## 2 VISION

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### ANALYSIS

Visions for the future encompassed qualities of the **natural environment** and the **social values and activity** that would support that future coming about.

People generally wanted a future with a **balance** that allowed the native biota to flourish while people were able to meet their needs based on imported biota. One school pupil expressed it thus: *My vision for the state of biodiversity in the Tasman Region for 2050 is being able to go out for a 10-20 minute walk and see native birds and trees at least 4-5 times and then using the native species to boost the economy further.*

People spoke in terms of **resilience** and a **mosaic of habitats** including restoration of those that had been most modified in the region, such as wetlands. Ensuring **appropriate landuse** and **integration** of management of land, water, and sea were seen as fundamental.

**Restoration** was seen by some to be needed to achieve this vision. This was described at the level of landscapes and ecosystems and also in relation to species. *All species that have become regionally or locally extinct or rare are reintroduced and flourish once again.*

There was wide expression that the **culture** of the community has to change to all biodiversity to flourish. *...the people of Tasman have a sense of reverence and reciprocity in regard to the natural world and are acting accordingly.* This was seen to include:

- **Leadership** where *biodiversity and the environment are recognised as being fundamental rather than perceived as a 'nice to have' luxury;*
- **Learning** as a core process within and between communities;
- **Interdependence** that recognises *we are of the Earth, te Taiao. Our wellbeing and our health are interconnected with the health of our Earth and its systems;*
- **Collaboration** that means *together Council, landowners and community groups are protecting and improving the health, spatial extent and ecological complexity of native biodiversity within - land, freshwater and marine environments;*
- Embracing **Māori perspectives** so that the Tasman Bio Strategy *follows the lead of the recently released Te Mana o te Taiao - Aotearoa New Zealand Biodiversity Strategy 2020, by seamlessly integrating the Māori perspective;*
- Taking **proactive** approaches to restoration and protection;
- Taking a **long view** so that the Tasman region will become *a beacon of hope for other regions in Aotearoa because it took far-sighted measures from 2020 to protect its natural environment.*

Some wanted a future free from **toxins** and others focused on the role of **climate change**.

## 2.1 GENERAL

- My vision for 2050. My vision is for a region that has made substantial tangible progress towards:
  - a) Natural ecosystems on Schedule 4 conservation lands that are free from the devastating impact of introduced species that threaten their native biodiversity.
  - b) The residents of Tasman Region commanding a high level of awareness, understanding, appreciation of and commitment to protecting native flora, fauna and ecosystems of the region through ongoing programmes of education and promotion funded through the local authority.
  - c) Private landowners incentivised and protecting remnant natural ecosystems where they exist and stimulating their re-establishment on areas that are unsuitable for other economic uses.
  - d) Delimiting extensive areas of public (or by agreement private) land of lower biodiversity value throughout the region to be managed for recreational hunting, with hunters incentivised to assist conscientiously with wild animal removal from areas of higher biodiversity value.
  - e) Ensuring that organisms in cultivation or domestication in the region are managed so there is no possibility of them becoming naturalised in, or ranging into Schedule 4 protected ecosystems through escape, liberation or close proximity.
  - f) Promoting quality independent research and development of and debate about improved or alternative pest management tools that are more effective at a landscape level and more thoroughly assessed to identify and minimise any harmful secondary impacts.
  - g) The many hundreds of kilometres of road reserves ("Queen's Chain") that exist between waterways and adjacent roads, farms and commercial forests being fenced and rehabilitating as native riparian ecosystems; having been redesignated as Esplanade Reserves and managed by Council's biodiversity department rather than their roading department.
  - h) Private and public landowners incentivised and using iconic native species typical of their localities (and eco-sourced) to create landscape plantings that relate to local natural landscapes and provide wildlife corridors to enhance the biodiversity of their communities.
- Kotahitanga mō te Taiao Alliance is actively encouraging landscape scale transformative projects in Tasman District ( Motueka awa, mineral belt, Tasman Bay marine ecosystem). Business, industry, corporations, households, and individuals all recognise the importance and appreciate and value our regional flagship examples of biodiverse habitats. They willingly support and fund biodiversity via targeted rates and levies. Impacts on Biodiversity is a fundamental consideration that underpins all economic activities.

## 2.2 ECOSYSTEMS

### 2.2.1 Health

- Healthy, functioning ecosystems with no further loss in quality or extent and no further decline in the distribution or abundance of any threatened species across the District.
- Flourishing
- A fully functioning set of ecosystems devoid of threats induced through human choices
- In 2050, ecosystems are recovering through improved pest and land management, the benefits of native biodiversity are recognised and cherished by increasing numbers of people and funding is assisting this recovery
- Robust, vibrant, healthy, diverse and thriving
- Fresh water quality maintained and improved
- A Tasman Region where human population growth and development is acknowledged as the biggest threat to biodiversity.
- I want our region to worry more about biodiversity than money. So no pests, no rubbish, no pine trees or trees that'll harm or stop other trees from growing. I want to see natives birds flying through town, and trees, and plants everywhere. My vision for the state of biodiversity in the Tasman Region for 2050 is being able to go out for a 10-20 minute walk and see native birds and trees at least 4-5 times and then using the native species to boost the economy further. Also making sure that rabbit island gets a well-deserved amount of attention as currently it is overrun with pine trees and non-native plants that might be living there. There should be a lot more sanctuaries for native species to dwell in without the chance of predators eating their young or eating their food resources. And in the oceans, if we make sure that we keep and help grow underwater habitats for fishing companies to end up boosting the economy. This is my idea of what I want biodiversity to look like in 2050. More native animals and trees roaming around, less destruction, and more protected areas to cultivate native plants and animals on the brink of extinction. Less invasive animals and plants - acacia trees, stoats, and ferrets. Human growth in a non-destructive way - instead of foresting work around the plants or relocate them. Finding and using renewable resources to further ourselves - factories and others using reusable and sustainable fuel sources, etc. Tourists want to come to see our nature reserves, and how well we have done.
- Reduced and restricted production of products that harm our local environment: Instead of farming things like pine trees or cows, focus on business that support the land and use it in a way that is naturally best for it instead of destructive. Every area has the capacity to support something efficiently, but if it is used for something it wasn't made to support it will perish and have a domino effect on other areas and ecosystems. Create products that naturally occur on or support the native growth of the land. Use the land for what it was designed for.
- Create more spaces for people and native flora and fauna to thrive, but can also be used by people for recreational activities. Do this instead of creating urban spaces and replace them with green areas. One of the most important changes that we need to make is creating an environment where many different species can thrive, especially those native to New Zealand. This means we need to reduce the number of predators like possums, stoats and rats and start increasing the numbers of native species
- A vision for 2050 is simply native based biodiverse ecosystem. A region where the animals and plants are nurtured equally. At the moment Tasman's forests are littered with pine and pest. In areas we have native forests but the hills are clothed with pine forest which prevent the 'diverse' part of biodiversity, only exotic plants tend to grow in pine forests as the native

ones cannot not adapt to the lack of light. If in 2050 the pine forests that have cut down the years were replaced with natives instead of then that would leap towards biodiversity and would add to achieve a vision.

- My vision for biodiversity within Tasman is to have a well-balanced environment that will not only allow for native plants and animals thrive and be beneficial for biodiversity, but will also benefit the community and the local economy. For example, currently our biggest export in Tasman is pine wood. Pine forests cover huge percentages of our surrounding land and although it makes a lot of money it doesn't allow for native plants and animals to thrive. We cannot just stop dairy farming, logging etc. because it will severely impact the economy but on the other hand we have to make a change because industries like these hurt the natural environment and don't allow for biodiversity. My vision for biodiversity before 2050 is to find a balance, somewhere in the middle that benefits both sides.
- We imagine a place where we have lots of biodiverse environments, so our native and indigenous animals and creatures can live together. Places like the Waimea intel, which is the largest estuary in the south island, are home to some very special species, and by 2050 we need to make sure that these species can thrive and survive alongside humans. We could have an island which is sealed off from pests, which is a place for endangered birds to thrive and live. It could be like Tiritiri Matangi in Auckland, and have a ferry that could transport people to the island to look at the native and endangered species.
- We need to create healthy environments for our native species to live together in harmony without the interference of humans or pests. We could transform some place into small sanctuary's that people can visit, and that are protected from pests. The mudflaps near rabbit island would be a good place for this to happen, as there are wetlands for birds, and the mud provides food for them in the form of bugs, and crabs.
- Our vision in 2050 is that we will have a good balance between native environment and environments brought about by man(e.g. pine forests). We will have at least most streams and water ways fenced off from life stock as it is currently not managed well. We will still have some pine forest for economic reasons but there will be always a line of trees next to waterway to help with managing silt levels. We will also have more publicity about groups and community events that people can get involved in. This is because if we spread awareness, then we will be able to make the environment easier to manage due to more people wanting to help.
- We need to keep and improve our areas of native habitat so the indigenous animals can continue to thrive. However, we still need areas to grow crops for food and export for money. The best thing to do would be to improve our farming practices to make them more environmentally friendly so less creatures will be harmed but we can still continue to have a stable economy from growing/farming and selling products. Visually, I would like to see most areas of pine trees returned to native bush, green spaces throughout built-up areas so animals can stop in safe places if they are in the city and farms not using chemicals on their crops. More fruit and vegetable farms and less beef and dairy farms would be better as beef and dairy herds pollute waterways and this cannot be easily changed but fruit and vegetable farms can switch away from harmful chemicals to other growing methods and ways of keeping away pests and diseases other than using substances that can sicken and even kill native plants and animals.
- Our vision for the state of biodiversity regarding the Nelson Tasman area in about 20, 30 years is an environment where all native (and exotic) trees, plants and animals can co-exist together sustainably without much interference from humans. We would like to see more

sustainable ways of gaining the resources we need to make profit for our area. Continuing with the ways we harvest pine for timber and improving our farming methods by protecting streams, rivers and other waterways from sediment created by livestock. We would like to see more sustainable ways of creating energy that will protect our native wildlife. This is our hope for the future of Nelson Tasman's biodiversity.

- Healthy climate to enable biodiversity to thrive and be resilient against the effects of climate change (this will need to involve emissions reductions). No more species are threatened with extinction, and we have reversed the tide for at least some species. Corridors from the mountains to the deep sea, including linking national parks, coast, and urban corridors. Increased marine protection – including more marine reserves and reduction in impacts from fishing, e.g. zero by-catch, protection of important benthic areas
- Dream would be to ensure that many significant terrestrial areas are restored to their natural state, thus that rivers become swimmable and that the health of Tasman bay improves

#### 2.2.2 Resilience

- The biodiversity and ecosystems of Nelson Tasman are resilient in the face of climate change and are an integral part of the climate solution. Te Taiao is the source of all life.

#### 2.2.3 Landuse

- Less plantation forestry and 'scorched-earth' clear fell, fewer pests (and less need for aerial poison drops), less intensive farming, less water use by industry and agriculture, no more homes in tsunami zone/flood plain, more native trees planted in appropriate locations (not where they will soon be inundated).
- Clean streams. Clean, swimmable rivers and creeks. LARGE areas of rejuvenating native bush between any land that has been subdivided smaller than 20 hectares. Compact town structure where fertile land is protected from subdivision. Cycle ways, horse travel made available between centres like Motueka, to Golden Bay- throughout Golden Bay.

#### 2.2.4 Habitats

- Where the habitats of both native and valued introduced flora and fauna are protected, enhanced and restored and inappropriate land and water use is prohibited.
- My vision is that by 2050 the district will have a mosaic of well managed habitats on private land and that these are all the better for good practical advice/support and that the results are well documented as an encouragement for others.
- To still have some lowland wetlands. Our Council does nothing to protect them and despite losing over 97% of them, continues to allow them to be developed.

#### 2.2.5 Integration

- Fully integrated landscapes and seascapes where biodiversity considerations are second nature
- That it will be indistinguishable between walking in the bush around Murchison compared to walking around the Brook Waimea Sanctuary. - In fact, the Brook Waimea Sanctuary will be redundant.
- Vision of the state of Biodiversity in Tasman region in 2050 October, 2050 Tasman residents prepare for the Spring season of habitat maintenance work, before the Summer food production and visitor season begins. Businesses discuss this year's biodiversity off-set targets, and their allocation of staff work-hours to their in-house biodiversity-enhancement projects. Managers review their annual data on biosecurity protection measures undertaken

in 2050. They watch the NIWA climate alerts projections for 2051, and draw up details of their planned response, to send to TDC for the annual Regional Biodiversity Community plan. They pay special attention to the all-important 'School Report': the section where they must address their biodiversity/biosecurity projections for the next decade. They answer incisive and well-informed questions from their future residents, workers and consumers, prepared as part of the school 'Citizenship' curriculum, about their business and its current uses of the natural world. They are required to show how any changes planned will prioritise biodiversity conservation and environmental health into coming decades, and improve the security of productive lands and waterways. Meanwhile, regional residents are preparing their rates statements for 2050-51. They must report on biodiversity/biosecurity projects completed from their allocation of the 'Environment Rebate' in the last year, and enter hours of volunteer biodiversity work undertaken by members of their household -or they can choose to pay full rates, with that contribution re-applied to support householders who are elderly or disabled. Some residential 'Bio-precincts' with special biodiversity/biosecurity issues work together to represent the needs of their precinct for a larger-scale Biodiversity Project Grant. It's an election year. Both the Biodiversity Minister and the Regional Communities Minister will have to deliver a detailed Bio-State of the Nation report to all citizens. TDC Senior Managers will be questioned beside them in public meetings, as they move through the Region. Meetings, live-streamed, are watched by many citizens, and an auto-feed selects related questions and proposals drawn from other regions, to help keep up to date with innovative ideas. A 'best of' presentation is edited to send out globally in a bio-creativity exchange with other nations. With climate change impacts and extreme weather events hitting hard, and New Zealand food and potable water production highly sought-after in world markets, the pressure on the natural environment is heavier than ever. The sorts of universal bio-stewardship now undertaken at every level of modern life, is still only just keeping up... 'The School report' is already pressing for more, and better, biodiversity protections...

- To have re-wild our environment and have a wildlife corridor into our towns from the National Parks

#### 2.2.6 Pest free

- Pest plant under control.
- Animal pests under control.
- National Parks and Reserves free from pest control initiatives and truly wild. Lowland - farmland and forestry and urban spaces (seemingly lowest priority at present) free from pesticides and the pressures of export. Wetlands restored and rivers less constrained. Vibrant, hybrid agroecosystems. Kereru on the table for dinner.
- Removal of imported pests

#### 2.2.7 Restoration

- All species that have become regionally or locally extinct or rare are reintroduced and flourish once again. Degraded habitats such as wetlands and lowland waterways are restored and/or reconstructed to bring back species such as bittern, crakes and giant kokopu. The most significant pest plants and animals are under control in all key areas - this includes some species that are not on the Regional Pest Management Plan e.g. willow in wetlands, Lagarosiphon in Pearl Creek, Te Kakau Stream and Hinetai Creek and Douglas Fir as wildings.

### 2.2.8 Protected areas

- Increase in size of the Marine Park or establishing new ones

### 2.2.9 Marine

- A recovering seabed, regenerating biogenic habitat, well-informed and supportive communities, a feed of (non-destructively harvested) scallops.

## 2.3 BIODIVERSITY

- Biodiversity will truly be recognised and accepted as being essential for the wellbeing of the economy and the people.
- That biodiversity 'especially native' is more prevalent and lowland water quality is safe for swimming.
- Great improvement in biodiversity in all areas.
- Best state possible for all biodiversity
- My vision is that we return as many areas in Tasman to the pre-human state of biodiversity as possible.

## 2.4 SPECIES

- Species that respond to landscape-scale predator management increasing throughout the Tasman Region

## 2.5 CULTURE

### 2.5.1 General

- That the entire community is aware of and appreciates biodiversity and does everything it can to protect it. Our reserves and gardens and farms are managed with biodiversity as the top priority and are brimming with it. Our threatened species are still existing and most have multiplied. Solutions to our predator problems have been found, e.g. our critically endangered kea are thriving.
- That the people of Tasman have a sense of reverence and reciprocity in regard to the natural world and are acting accordingly.
- Science-based collaboration, restoration/reinstatement, enhancement

### 2.5.2 Leadership

- Attitudes of leaders and decision makers will have changed, such that biodiversity and the environment are recognised as being fundamental rather than perceived as a 'nice to have' luxury.

### 2.5.3 Learning

- Collaborating and educating the next generation to maintain and support its natural development along with nature
- Emulate the success of larger projects that are currently happening in NZ

### 2.5.4 Interdependence

- We must acknowledge our connection to and dependence on the natural world. We need to recognise and close the inequality gap between humanity and other species. Our very survival depends on healthy functioning ecosystems.

- We are of the Earth, te Taiao. Our wellbeing and our health are interconnected with the health of our Earth and its systems.
- We envisage a Nelson Tasman region where all our communities – individuals, families, iwi, businesses, policymakers, elected officials – recognise the intrinsic value of supporting and protecting ecosystems and biodiversity, and prioritise the well-being of te Taiao.
- We envision a Nelson Tasman region where all recognise the urgent need to address climate change through individual and collective actions, and where all work together to enhance the health and resilience of our biodiversity and ecosystems in a rapidly changing climate.
- Protection of biodiversity is integrated into our economy and lifestyle

#### 2.5.5 Collaboration

- Seek collaboration and support, including through Biodiversity Forums in the region, from relevant organisations with expertise e.g. Manaaki Whenua Landcare Research; Cawthron Institute; NMIT, Universities, Kaitiaki and council contractors such as Nelmac.
- Identify opportunities for contributions from citizen science, both in terms of expanding the datasets that can be used, and in fostering community engagement (including with schools).
- Together Council, landowners and community groups are protecting and improving the health, spatial extent and ecological complexity of native biodiversity within - land, freshwater and marine environments.
- The community working with TDC to improve human impact on Nature
- That it becomes a priority to those of us living and working here
- Part 4 of the discussion document envisages the implementation involving a range of community organisations and individuals as well as seeking funding from a broad source. This makes perfect sense to me as the values involved are widely appreciated and the community does want to contribute to their wise management.
- Partnerships with predator free, weed busters, private and business people etc saves cost and enhances biodiversity. These initiatives need support. Rate relief for covenanted land would encourage private landowners to protect biodiversity. Support for farmers to fence sensitive areas.
- Perhaps the way to go is to have communities create a local hub – with a local co-ordinator who is reasonably au fait with the area/issues but who also know where to go for advice which may relate to the:
  - a. WHY there needs to be an improvement in biodiversity (so it is not, for instance, planting for planting's sake, but that the outcome can be measured by a specific measure - increased native bird numbers (e.g. kaka, or kea, or little blue penguins), or land snails, or improving water quality in rivers, or whatever is appropriate for the ecosystem/species.
  - b. WHAT is needed – funding scientific advice, equipment, plants, personnel etc and
  - c. WHEN timing for specific activities – planting, surveys/bird counts, etc.

#### 2.5.6 Māori perspective

- The discussion document relegates the Māori worldview to a secondary status by putting it into a special section (Healthy nature is essential to Māori: Natural biodiversity nurtures us in so many ways. Māori believe that if the environment is not healthy, then neither will be the people). We all know that if the environment is not healthy, then neither will we - it is not just a Māori viewpoint. The Tasman Bio Strategy should follow the lead of the recently released Te Mana o te Taiao - Aotearoa New Zealand Biodiversity Strategy 2020, by seamlessly integrating the Māori perspective.

### 2.5.7 Proactive

- Environment first with no compromises to water quality, business interests etc.
- Proactive rather than reactive responses, so employ enough people to execute current requirements, and actively start up more biodiverse areas through land acquisition, subdivision etc
- Clearing waterways so they are clean enough for native species to live and thrive.
- Continuing to protect our animals in the water, sustaining habitats and increasing numbers
- More restrictions on what people can interfere with in environments- fishing, logging and similar

### 2.5.8 Long view

- My vision is that the Tasman region will become a beacon of hope for other regions in Aotearoa because it took far-sighted measures from 2020 to protect its natural environment. In particular, Tasman took action to protect natural habitats, stopped over exploitation of land, farmed more sustainably (marine and land-based farming), took action to make landowners responsible for eradicating invasive species and minimized the impact of climate change.

## 2.6 TOXINS

- Natural areas back to a balanced habitat without poisons returning to traditional hands on strategies

## 2.7 CLIMATE CHANGE

- The biodiversity and ecosystems of Nelson Tasman are resilient in the face of climate change and are an integral part of the climate solution. Te Taiao is the source of all life.

# 3 PLACES

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## ANALYSIS

People were asked to comment on places that were well managed and those that needed more care. Some focused on places and others on generic ecosystems such as coasts and wetlands. Section 3 reports comments on places and section 4 on ecosystems and species.

Overall the perception was that, outside some small areas, **public conservation land** was the core of what is well managed. The Abel Tasman National Park was most cited with frequent reference to the work of Project Janzoon. In this approach base management by the Department of Conservation is supplemented by well organised **philanthropic contributions**. Some involved funding contributions and others such as the Friends of Flora were predominantly citizen direct action. Others in this family of care were: the Mangarakau Swamp, Health Post at Farewell Spit, Motueka sandspit and estuary, and Waimea Inlet. This approach also applied to some council reserves such as Faulkner's Bush.

Many places were seen to need more management. Examples are:

- NW coast – Whanganui Inlet and its surrounds
- Golden Bay – Waikoropupu Springs and the coastal environment

- Kahurangi – expanding from the Flora to the Arthur range and the Cobb
- Abel Tasman – coastal and nearshore environments
- Motueka – rivers and estuaries and small reserves
- Waimeha – Moturoa/Rabbit Island
- Kawatiri - Alluvial terraces and adjacent low montane slopes
- Mt Richmond – Red Hills.

Some people did not limit themselves to Tasman and commented on areas in the Nelson region.

### 3.1 WELL MANAGED

#### 3.1.1 General

- The whole of Tasman is important.

#### 3.1.2 NW coast

- Puponga and Wharariki
- Farewell Spit
- Whanganui/ mangarakau generally good but some patches need improvement.
- Mangarakau Swamp, the largest swamp in the Tasman District. We all know how important swamps are.
- Mangarakau Swamp - a fundamental refuge for marsh birds (including bittern) in Tasman.
- Mangarakau Swamp. home to a variety of species. A significant wetland.

#### 3.1.3 Golden Bay

- Pupu Springs
- Uruwhenua
- Project De-Vine – collective funding and action to tackle issues that aren't always prioritised by our community
- Landscape scale restoration of lowland-fertile plain podocarp-dominated forests in Tasman Basin and Golden Bay lowlands. This would require land purchase.

#### 3.1.4 Kahurangi

- KNP
- Kahurangi
- Heaphy Track
- The area covered by Friends of Flora around Mt Arthur/Tablelands seems to have more pest control than most areas and I've seen biodiversity work by DOC occurring. It covers a large area, which is important, and I believe it gets reasonably regular aerial poison drops to help with rodents.
- Cobb Valley, an enormous increase in bird life due to intense pest control.
- North West Nelson - application of 1080 to control pest plants.
- Goulard Downs, intense predator control providing safe habitat for endangered species;
- Kahurangi NP - for the diverse range of species found in this area including rock wren, kiwi etc
- The Cobb area of Kahurangi National Park, because of a sustained pest control strategy. Due to a combination of volunteer and DOC efforts there is an amazing population of birds.
- A private property at Tukuruua, where trapping has been consistent and sustained. Weeds are removed. Important because of its position in a rural residential area.

- Headwaters of the Motueka river in the Kahurangi National Park - self-managed and critical for the wellbeing of the catchment below.
- Friends of Flora – we recognise the efforts of the community, but also the frustrations they have had around the need for support during past years as well
- friends of flora.
- FOF / Salisbury: Intense long term commitment by a community group, stronger vision than DOC's. DOC has limitations on deer control imposed by political risk aversion.

### 3.1.5 Abel Tasman

- Abel Tasman National Park. The Next Foundation's long term funding enables DOC, with Birdsong trust Community group and others to work on a landscape scale habitat restoration. There are limitations in effectiveness as impacts from deer and pigs are not managed and aerial 1080 leaves an uncontrolled pest halo around private enclaves and the coastal margin.
- Q3 Tell us about three important places in Tasman that lack the active management they need.
- Abel Tasman national park, covers all parts of sustainability, including volunteers & funding for ecological, cultural & education benefits.
- Abel Tasman Tree collective
- The western end of the ATNP because it's not as over-used as the rest of the park.
- Abel Tasman National Park - great restoration work being carried out under public/private partnerships.
- The Abel Tasman is getting better management now, but the funding will not be replicated elsewhere, due to private donors.
- Abel Tasman x3
- Totaranui
- The Abel Tasman islands look to be doing well.
- 1. Abel Tasman area because of greater emphasis on pest and weed control.
- 2. and 3. is a stretch because other areas seem to be under attack from pests and weeds, yet the controls put in place are merely stop gap measures. There needs to be a holistic approach to managing biodiversity for it to be successful.
- The beginning of the ATNP with plant regeneration and pest management efforts.
- ATNP
- Abel Tasman National Park - private investments has been profound for pest control.
- ATNP - Birdsong Trust and PJ helping DOC do great work in a really high-profile site/ easy access site
- Abel Tasman Marine Park shows how controlled fishing can lead to enhanced catches in surrounding waters
- Abel Tasman national park. It is home to so many species of trees and animals. It's a beautiful place to be and if we lose that then we lose valuable plants and animals. First of all, forests because they are the main habitat for our national parks and contain lots of species in them, but they do have a flaw in it being very hard to control pests.
- Separation point with restrictions on fishing
- Abel Tasman national park, lots of trapping for pests and regular beach clean-ups
- Another place that is very biodiverse, and a nice place to visit is the Able Tasman National park. It has beautiful beaches, and forests full of birds, and minimal amounts of pests. The

oceans have dolphins, fish, and even Orcas. There are lots of walks, huts, campgrounds, and rides.

- Able Tasman national park because the environment there is well managed, and the tracks and huts enable people to enjoy the native bush.
- Abel Tasman- Abel Tasman is home to much of our native wildlife- sea and forest birds and the famous seals.
- Able Tasman National Park is filled with native trees and provides safe homes for many birds and native animals.
- High altitude wetlands in Abel Tasman National Park.
- None that I know of except for the Abel Janzoon trust (which has private benefactors and paid workers), and the Friends of Flora and some Coastal Care projects.... but all volunteer projects lack direction/assistance/advice/succession plans etc.
- Abel Tasman National Park: Project Janzoon is significant, well-funded and making progress in restoring natural ecosystems representing a complete series from coastal to montane.
- Abel Tasman National Park – significant investment by Project Janzsoon, integrated with community efforts where possible

### 3.1.6 Motueka

- Riwaka Resurgence
- The Riwaka Resurgence because of the protection of the waters and the cultural values.
- Motueka Sand-spit
- Motueka Estuary area is well managed by volunteers from KMB.
- The Coastal land, inland to the Moutere Highway, from Richmond to Motueka is an example, this area has become a huge suburban lifestyle block and an environmental disaster
- An integrated catchment management project for the Motueka River and its tributaries

### 3.1.7 Waimea

- Waimea plains
- Creation of wetlands in the Appleby Plains - sports fishery created for youth.
- Thorps Bush
- Faulkner's bush
- Faulkner's Bush - Kahikatea stand and close by well-used amenity for Wakefield community who are also engaged in being custodians of the area.
- Faulkner Bush (and to a lesser degree Edward Baigent Bush and part of Robson Reserve) have been reasonably well-managed. This has been however due to the commitment of a few locals to "plan" (which including making certain that the areas were legally protected as scenic reserves under the Reserves Act), removing on an on-going basis the many weed pest species from wandering willie to yews seeding from the nearby churchyard; personal regular practical assistance and advice from key TDC staff, sourcing appropriate plants and funding; and interest from some scientist for scientific advice e.g. on aquifer flows; to more recently animal pest control. Faulkner Bush is however still subjected to pressures from public use and proximity to urban areas – damage to vegetation, and to grassed areas; use by cyclists and competitive running, planting of inappropriate species. There are too many "edge effects" in the discrete plots of planting/vegetation and little natural regeneration. The distance between Faulkner Bush, Edward Baigent Bush Robson Reserve and other small patchwork areas of native vegetation in Wakefield mean that the use of these areas for "fly-bys" is limited' with very little or no connectivity.
- The shoreline of the Waimea Inlet.

- Waimea gorge mtb area shows how leisure activities and the local environment can coexist in harmony.
- (can only think of 2 specific examples.) But if there is a third it would likely be a small reserve or covenant where spontaneous regeneration is not compromised by browsing animals and intensive trapping is keeping rats and stoats to low levels. It is hard to think of examples but one candidate would be Eves Valley Reserve where ungulate and possum impacts are very low and some rat and stoat control occurs on NMIT Ranger Trainee's predator trapping lines.
- Waimea Inlet. Phase out plantation forestry production on the seaward frontage of the sand barrier Island. Rabbit Island needs a wide belt of mobile sand on the Tasman Bay shore of the Island to enable effective dune restoration and migration to occur - eventual removal of all pines. Land purchase to enable habitat retreat.

### 3.1.8 Nelson Lakes/Murchison

- Nelson Lakes National Park
- Nelson Lakes National Park - protection of significant alpine environment.
- The Rotoiti Nature Recovery Project is a good start, but I suspect it needs more staff and support from the National DOC office - it could be even better!
- Nelson Lakes National Park - mountain area where biodiversity work has reaped results.
- NLNP mainland island - because there is limited opportunity for re incursion of predators.
- The Nelson lakes are surrounded by amazing snowy mountains. UP higher there are kea, and down in the lake eels. It's got tramps, and is a good place to go hunting for deer up on Mt Robert. They have traps, and pests are controlled.
- Lake Rotoiti- Lake Rotoiti is important for biodiversity as it is a large national park that houses many of our native species, particularly birds. It has great native bush, and many ferns, shrubs and trees thrive there.
- Lake Rotoiti has clear fresh waters lots of natives and beautiful well-kept walkways.
- Rotoiti Mainland Island, Nelson Lakes National Park: A well-resourced and monitored project to understand and protect the upland beech forest and alpine ecosystems that make up a significant component of Tasman's natural ecosystems.
- Tasman District Council's Riverview Scenic Reserve and adjacent Recreation Reserve, Murchison: A significant remnant alluvial forest of considerable educational and documented scientific value with high biodiversity and integrity and with opportunities that are being taken for expansion through sensitive restoration.

### 3.1.9 Outside Tasman

- The brook sanctuary, great place for birds and animals to thrive.
- Brook Waimarama sanctuary - it is important that we have pest-free sanctuaries as insurance against potential future invasions.
- The Brook Waimarama Sanctuary is a great example of what is possible and offers a great legacy and educational classroom to future generations
- Pelorus, good forest, clean river, not too much shops, heaps of endangered/endemic species
- An area of well managed habitat in Tasman is Brook sanctuary. The brook is the one of biggest fenced sanctuary in New Zealand, breeding endangered species and introducing them back into the top of the south, heaps of community involvement, money payed for entry is put back into the sanctuary and the environment, almost 100% pest free, reviving our bird population, all native forest.
- The Horoirangi marine reserve is another area that benefits biodiversity. In this area fishing is prevented and the marine life is not interfered with.

- The Matai Brook sanctuary is a place that has been closed off to pests, so that the native creature can live without fear of being hunted or killed. They held a fundraiser to build pest proof walls all around that place.
- Brook sanctuary- Brook sanctuary has a really big and highly effective predator proof fence, and it is a haven for our native birds.
- The Brook Waimarama Sanctuary is a safe place for birds because of the lack of predators there also lots of natural walks.

## 3.2 NEEDING MORE MANAGEMENT

### 3.2.1 NW coast

- The dune systems of the west coast of Tasman are in need of much-improved management, especially plants and invertebrates.
- White Pine creek catchment in Whanganui should be purchased and retired from grazing. All the small tributaries appear to have been flood gated.
- Whanganui Inlet from Rakopi to White Pine Creek. Purchase of the Riley farmland is very important to allow managed retreat of saltmarsh and key marsh bird (including bittern) habitat.
- Onetahua
- Purchase White pine creek catchment and restore.
- At Mangarakau Swamp we monitor the Bittern. Mostly they are there for breeding in the spring. They need safe feeding territory the rest of the year.
- Whanganui Inlet - This is an outstanding natural area and currently faces constant pressure from the effects of farming. Farmers are doing the best they can, the claim, but there remains visible evidence that cattle are able to access some lowland creeks near wetland areas and graze very close to the coastal environment. I see grazing in wetland areas taking place in other areas in Golden Bay – why is this still happening?

### 3.2.2 Golden Bay

- Waikoropupu springs. Nitrate level increases.
- Pupu Springs.
- Waikoropupu
- Te Waikoropupu Springs upstream water purity management. Farmers are having huge effects on waterways due to overstocking and non-regulatory winter grazing and over application artificial nitrogen. All farmers should be required to farm regeneratively to have less impact on to land
- Tarohe harbour. Business and recreation and marine life can co-exist but not at the business first level that TDC is trying to push.
- Golden Bay foreshores need a refocus away from solid structures
- Golden Bay marine

### 3.2.3 Kahurangi

- Kahurangi National Park
- Flora carpark and road to Flora
- Arthur range
- The Wharepapa/ Mt Arthur area of Kahurangi National Park with the Flora at its' core is the biodiversity hotspot in the Tasman District.

- The Lake Sylvester/Cobb Valley area - I'm not sure what active management occurs for improving biodiversity or even measuring what is still there.
- Places like the Dragons Teeth - where human and pests impacts are still slight.

#### 3.2.4 Abel Tasman

- Abel Tasman
- The reef off Abel Tasman
- Abel Tasman NP, south of Onetahuti
- Abel Tasman Coast Track
- Totaranui wetland
- Wharariki Ecosanctuary is a good start.
- What Project Janszoon are trying for in ATNP
- Abel Tasman beaches, although it is well managed it is becoming too over populated. Problems in the Abel Tasman include water pollution due to an excessive amount of water taxis, tourists without respect for our beaches, too much bloody boating, with an exception to biscuiting and wake boarding.

#### 3.2.5 Motueka

- Atua stream, on the Marahau hill
- Takaka hill
- Otuwhero wetland x2
- Otuwhero Wetland Trust, The trust founded in 2011, they were a group focused on helping and protecting the wetland, but in 2018 a cyclone hit the wetland and destroyed everything they had worked for, and now there is lots of sand in the river and sediment washes down from the trees as they are harvested. It would be great if the Otuwhero wetland got the help it needed to be restored.
- Otuwhero Wetland Trust, The trust founded in 2011, they were a group focused on helping and protecting the wetland, but in 2018 a cyclone hit the wetland and destroyed everything they had worked for, and now there is lots of sand in the river and sediment washes down from the trees as they are harvested. It would be great if the Otuwhero wetland got the help it needed to be restored.
- Kaiteriteri and the coastal areas between Kaiteri and Marahau.
- Machine gully wetland
- Motueka River estuary
- The catchments on Separation Point Granite that are given to pine forestry
- Thorp Bush Motueka;
- The Motueka Valley comes to mind where there is old man's beard and passionfruit within riparian and other stands of tall trees.
- All along the Motueka and Riwaka rivers - need riparian planting and a large barrier to prevent stock from entering
- Tapawera basin - total devastation of rural landscape for conversion of landscape to hop monoculture
- The Motueka outlet lots of sediment covering the sea floor.
- Moutere Estuary- The muddy buddy run is squishing the organisms that live in the mud when it is being run on.
- Borlase Forest - OMB and other weeds starting to take over in the native gullies. Should be an area that Tasman is supporting wider use of by the community for recreational purposes

and could be for custodianship purposes. TDCC (Tapawera & Districts Community Council) requested that it be included amongst the District's reserves being managed and accessed for recreational purposes, but it was not included. With Tapawera likely to see bigger influxes of visitors & residents in the next 10 years particularly cyclists, it would be good to address this.

- Motueka estuary, quite degraded

### 3.2.6 Waimeha

- Richmond - urban sprawl, loss of productive land.
- Rabbit island, rabbit island is much like Tahunanui beach and needs to be protected by industries and rich business people, rabbit island could be exploited very easily and people could make lots of money, we need to keep rabbit island to its glory.
- Rabbit Island. Its shore line is a breeding ground for many different animals including oyster catchers. Plus coastal vegetation and rough island wetland
- rabbit island/bell island (concerns with their land use)
- An area I would like to see with improved by biodiversity is the Waimea Plains. It has been almost completely denuded of its indigenous, pre-human vegetation. I would like to see a chain of indigenous vegetation areas established linking the hills to the sea. Something like this has been happening on the Canterbury Plains and we could follow their example. I would like to see the banks of the major rivers on the plains returned to their native vegetation: getting rid of willows, pines, poplars etc and replacing them with the plants that would have been there before. There is also a lot of scope to return Rabbit Island to its native vegetation, at least in the areas most-used by the public.

### 3.2.7 Kawatiri

- Alluvial terraces and adjacent low montane slopes in Upper Buller Gorge Scenic Reserve and Stewardship parcels. These together are areas of significant biodiversity particularly influenced by the inland pakihi ecosystems characteristic of the terraces. The integrity of these ecosystems has been compromised by historic fires and by the placement of a major electricity transmission corridor across the terraces. Access to the corridor has led to more recent fires, perhaps deliberately set to enhance hunting success, and the introduction of potential invasive weeds including gorse and broom which have been poorly managed. Access has paradoxically increased the value of the terraces for recreation and education and the ease of monitoring and protection where needed. Despite the low level of management and until recently the lack of predator control, populations of fernbird and great spotted kiwi have maintained themselves. It probably indicates that this is exceptionally good habitat for these species and ideal for more active and targeted management for and monitoring of them. Classified as Scenic Reserve (higher protection) and Stewardship (lower protection) these areas form a lateral strip between Kahurangi National Park (Mokihinui catchment) and the Buller River (and State Highway 6) They are probably worthy of incorporation into the National Park in recognition of their biodiversity and landscape values and recreational potential.
- High recreational use destroying vegetation in sensitive areas of Nelson Lakes National Park and Kahurangi National Park: Two specific areas of concern are the Thousand Acres Plateau between Poor Pete's Hut and Larrikin's Hut in Kahurangi National Park and the Speargrass Valley above the Speargrass Hut in Nelson Lakes National Park. Lack of formed tracks suited to the terrain or permanent structures in these two locations of poor soil drainage are leading to ever widening swathes of mud replacing the natural vegetation creating a

potential to accelerate erosion. Both areas have their own specific biodiversity attributes including alpine wetland vegetation on the Plateau and high butterfly biodiversity in the Speargrass and both have high and potentially growing usage. The Speargrass Valley route is the bad weather alternative to the very popular Robert Ridge to or from Angelus Hut and so tends to have higher usage when the ground is saturated. Meanwhile the Plateau route is now more accessible again with the road completed to Matiri West Branch. Boardwalks are perhaps a feasible option at Speargrass while on the Plateau a raised path with parallel water tables might be a more suitable option.

### 3.2.8 Mt Richmond

- Mt Richmond Forest Park x2
- Red Hills -I'm not aware of any active management, which is the same for the rest of the Richmond Ranges.
- Mineral belt

### 3.2.9 Outside Tasman

- Pepin Island and the surrounding seas.
- Cable Bay to Glenduan need more attention both on land and on the coastal area.
- Cable bay. Paramata flats has been planted out but this needs to be extended to the farm land and the beach.
- Tahunanui Beach, Tahunanui beach is an important part of the Tasman region, I think that the beach should be kept the same and not be exploited for money, human interruption ruins lot of beaches and we shouldn't let that happen to our precious beach down the road,
- Nelson Sand flats- The flats lack in many native animals and are now home to a large numbers of pests such as rodents and feral cats. Hunters in the area often stomp down on the native bush/ shrubs, because of this
- The Maitai- There is lots of algae, and there are lots of housing being built next to the river. If the plans to extend the town there go ahead there will be a big impact on our native ecology as their habitat will be reduced and there will be the problems such as car fumes and litter that come with towns.
- The Brook Sanctuary is working very well to protect our birds from predators. If we scaled up the Sanctuary with more fencing (and so a bigger area for our birds) we could make it easier for our bird species to increase their numbers without being in danger from stoats and rats etc.
- The Maitai river

## 4 BIODIVERSITY

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### ANALYSIS

While most people seemed to relate strongly to specific environments or species, some took exception to this way of approaching biodiversity and biosecurity issues. *The suggestion that habitat or species should be singled out in such ways betrays weakness at the understanding of biodiversity in the proposed policy.*

People found it easier to think of environments needing more management than ones that were well managed.

Well managed environments were seen on **public conservation land** and where **riparian planting** has been occurring around rivers and streams.

Most cited as needing more care were **coastal and marine environments**. A wide range of issues and values were mentioned. **Benthic, estuarine, and sea shore ecologies** were seen by many as needing restoration.

Many people were concerned about the state of **freshwater, wetland, karst** and associated **riparian margin** environments.

A smaller number sought more management for **lowland, mountain** and **urban** environments

Some were concerned about the state of **public lands** such as road reserves.

Many people sought more care for a **wide range of bird genera** (9) and groups such as shorebirds. Concern was expressed about native fish, particularly whitebait. **Reptiles, bats, and terrestrial invertebrates** were noted by some as needing more care. People also mentioned with a focus on **Hector's dolphins** (though some referred to these as Maui's dolphins).

Only two specific **threatened plant** genera were mentioned although Tasman has many species on the edge of extinction.

One submission suggested that *it may also be useful to acknowledge the role of **valued introduced species** such as trout and mallard ducks*. It is notable that no submissions placed game animals in this category, although this was advocated by some at public meetings.

#### 4.1 GENERAL

- Healthy ecosystems are fundamental to the well-being of all life on Earth. Healthy, resilient ecosystems sustain the ecosystem functions and services all biodiversity requires to survive and thrive, especially in the face of a rapidly changing climate, and on top of population growth and economic growth pressures.
- Aotearoa is one of the biodiversity hotspots of the world; when a species is lost here, it is likely to be lost to the world. Biodiversity is an irreplaceable treasure. In putting this strategy into action we embrace the principles of kaitiakitanga to guide our restorative management of Te Taiao in conjunction with iwi. Iwi of Te Tau Ihu are cultural kaitiaki across Nelson Tasman / Whakatu-Motueka-Mohua.
- The suggestion that habitat or species should be singled out in such ways betrays weakness at the understanding of biodiversity in the proposed policy. We are not running a zoo. 'Enclosure' as a core of conservation is at best a tactic, not an overall strategy. To consider it as if it were the major direction of a biodiversity/biosecurity practice is to misunderstand and misrepresent what biodiversity is. It is old-school thinking, and defeats the central ecological principles of inter-connectedness: the systems approach of true conservation. Put simply, all of Tasman's habitat and species are in need of care. Declaring a few more 'reserves,' or zoning lands for this or for that 'special consideration,' ignores history. We know that areas now considered crucial to overall ecological health and to food-harvesting activities -such as estuarine wetlands, for instance; were once considered 'mudflats' and filled in whenever possible. The term 'scrub' tells us much of what flatland native foliage, shrubs and grasses, were considered to be 'for.' Biodiversity recognises that all species: economically viable or not; aesthetically pleasing or not; occupy a position in the natural environment, and maintain its health.

## 4.2 GENERAL

Native biodiversity in this region is very high. With respect to native forests Dawson and Lucas in 'NZ Native Trees' (2011) presented this summary :

### NORTHWEST NELSON

The northwestern corner of the South Island contains some of the largest areas of wilderness remaining in New Zealand, including Kahurangi, Nelson Lakes and Abel Tasman national parks, and Mount Richmond Forest Park. The area has an extraordinary level of endemism in both its flora and fauna, as a result of its tectonic history and its role as a refuge for isolated local plant and animal communities during the Ice Age glaciations.

All five kinds of southern beech occur in the Northwest Nelson area, and in the Richmond Range, the beech forest treeline is exceptionally high, almost the highest in the country at more than 1500 m.

Several northern species, in particular kohekohe, tawa, tanekaha (*Phyllocladus trichomanoides*) and kawaka (*Libocedrus plumosa*), reach their southern limits here. A number of subcanopy species are endemic to the area, including *Pittosporum dallii* and *Myrsine argentea*. Below the treeline, the forest is dominated by mountain beech (*Nothofagus solandri* var *cliffortioides*) and silver beech (*N. menziesii*), with scattered mountain cedar (*Libocedrus bidwillii*) and,

especially on the shallow, leached soils of ridge crests, mountain neinei (*Dracophyllum traversii*), with its striking candelabra-like branches. Mountain ribbonwood (*Hoheria glabrata*) is a common feature of slips. Red beech (*Nothofagus fusca*) and silver beech occur on slopes at lower altitudes, and conifers and broadleaf species, including southern rātā (*Metrosideros umbellata*), tāwheowheo (*Quintinia serrata*), kāmahi and pōkākā (*Elaeocarpus hookerianus*), become more numerous towards the coast.

An interesting feature of the Northwest Nelson area is the Nelson Mineral Belt, which is notable for its unusual flora and the absence of forest. The soils in this belt contain high levels of magnesium and tend to be toxic to most plants. The so-called 'serpentine soils' are instead colonised by shrubs normally found in the harsh subalpine environment.

## 4.3 WELL MANAGED

### 4.3.1 General

- The tiny remnants of lowland podocarp forest
- Estuarine areas managed by BFBR

### 4.3.2 Public conservation land

- All the land under DOC management
- I find it hard to know what well managed habitat in Tasman is run by TDC so hard to comment but I look at the National parks and see a wonderful environment that is very significant for the area.
- marine reserves as they are no-take zones - not sure how well managed they are. We need them to give room for nursery fish etc
- We have really good work happening in national parks

### 4.3.3 Riparian

- I am seeing incredible riparian management, much of it peri-urban and as TDC initiatives.

### 4.3.4 Lifestyle blocks

- Plantings on private 'lifestyle' blocks - which could be improved even more with tactful advice and support.

## 4.4 NEEDING MORE MANAGEMENT

### 4.4.1 Marine

- Our ocean
- Marine
- The marine ecosystem
- The marine environment
- The marine environment
- Seas
- Nearly the entire marine CMA. Sediment input from land is not as bad as it was, but we need to keep improving.
- The sea - Tasman Bay. We don't know enough about what's going on there and what needs doing to look after it.
- Tasman Bay seabed badly degraded by siltation and heavy metals.
- Marine and tidal ecosystems will benefit from creation/expansion of marine reserves.
- Tasman Bay seabed is an environmental disaster area; it is heavily degraded by decades of scallop dredging and siltation from land disturbance.
- Waterways in general, Golden Bay, which is an outstanding natural landscape, yet it is being over-run by the marine farming industry,
- The marine environment lacks regulation, e.g. effective consent conditions for industry, monitoring to ensure best practise, and compliance processes to ensure industry and recreational users are abiding by the regulations.
- Marine environment especially considering the massive, proposed increase in mussel farming. The impacts were not sufficiently considered in a wider context
- Whanganui Inlet - West Coast Marine
- Golden Bay marine environment

- Golden Bay lowlands - pests and pest plant management needed
- Golden Bay is very different to the more expansive Tasman Bay and deserves special consideration. It is closely encircled by hills and mountains, making residents, a large proportion of who live in coastal settlements, very susceptible to mussel boat noise. Golden Bay has some of the most pristine, unique and breathtakingly beautiful natural marine and coastal environment and ecosystems in New Zealand and is a major tourist destination for this reason. A significant portion of the population relies on tourism for its income. We are blessed with clear waters which are important feeding grounds for a large range of marine animals such as orca, pilot whales, dolphins, seals, little blue penguins, stingray and many species of fish. The expansive tidal flats of our bay are important feeding grounds for migratory and other shorebirds, many of which are endangered. All this marine and birdlife is dependent on a thriving ecosystem that is free from dairy pollution and aquaculture pollution. The sea floor of Golden Bay has already been disastrously damaged by sediment build up from forestry and dairy run off and commercial and recreational shellfish dredging. Golden Bay is a delicate and vulnerable ecosystem which will undeniably be impacted by the significant expansion of the mussel farms. The MFIG urges the Working Group to ensure that adequate attention is given in the Biostrategy Plan to the negative environmental effects of aquaculture in Golden Bay. We believe that TDC needs to establish the populations of all marine and bird life in the Bay and support and initiate research on how they are impacted by marine farming, and ways to mitigate any negative impact. As residents of Golden Bay are also a part of the biosphere, we ask that the strategy also include the effects of aquaculture development on them.
- The inlets such as Moutere, Waimea. Very important for all sorts of invertebrates, fish and birds but obviously suffering given bird numbers. These inlets should be reserved and be actively managed
- Most of our coastal waters need protection from over fishing
- We need to have greater regulation in place for protection of fresh water and oceans. With Golden Bay being industrialised for mussel production we face multiple effects – to people and place. TDC has not put in place any meaningful regulation for this industry and I don't believe self-regulation is working. We need to see legislation created that specifically addresses this industry and its wide impacts. I see this industry as operating in public space that belongs to all of us, we should therefore have a say on how it is utilised.
- There is growing evidence that underwater sound can affect many marine species, the effects of masking – with expansion of mussel farming there will be impact on our marine environment, particularly in the sheltered waters of Golden Bay. Potentially we should be calling for a comprehensive study of underwater sound levels and impacts if we are going to allow a big increase in noise via mussel boat activity in our waters.
- The biodiversity and ecological breadth has not been taken into consideration.
- Whilst our area is not near a marine reserve, it is adjacent to National Parks and some could argue that we should declare a portion of Golden Bay coastal waters marine reserve. Enforcement of current regulations needs to take place.
- Marine space (including estuaries) is in need of active management and the community is fragmented and not well integrated
- Sedimentation and the effects on rivers, estuaries, and nearshore marine environments
- Benthic environment, especially Separation Point, but across Tasman and Golden Bays
- Marine species protection and overall management. Besides the dolphins, we have a wide range of vertebrate and invertebrate species whose habitats are being steadily disrupted or

destroyed by excessive fishing industry activity. We need to be asking hard questions of the salmon farming, mussel farming and finfish sector given the documented negative impact on the local environment of their activities.

#### 4.4.2 Estuaries

- The sea and coastal areas run off into estuarine environments e.g. Waimea, Motupipi, Collingwood. Onahau.
- Coastal/estuarine ecosystems are under particular threat from rising sea levels, storm surges and salt-water intrusion.
- Estuaries,
- Species associated with tides, estuaries, coastal margins
- Estuaries; Hardening off margins

#### 4.4.3 Coastal

- Dune systems have become a mass of introduced plants and some in Tasman are very significant.
- The whole coastal fringe
- Coastal areas to protect nesting birds e.g. dotterels, seabirds, penguins. Need to reduce predators and disturbance by dogs and vehicles. Predator-proof Farewell Spit.
- Restart coast care, promote dune restoration and remove vehicles from beaches
- I refer the Tasman Biostrategy team to the document published in 1993 “International and National Important Coastal Areas from Kahurangi point to Waimea Inlet, Nelson, New Zealand: Nelson Marlborough Conservancy Publication Number 14 by Davison, Stark, Preece, Lawless, Clarke, - the Biodiversity committee need only refer to this document as their guide. It lists specific areas of significance and summarises and justifies their ecological value. The work needed has been done already, the urgency has only increased. We know the value of what we have here – it only requires action on behalf of TDC.
- Beaches: I would like to see enforcement and fines re dogs and encroachment to shorebird habitat, including known penguin spots. Taupata point should be excluded from freedom camping sites.
- Shorebird protection. Golden Bay is home to many threatened species that have little protection on our coasts. Migratory species must have rest at high tide particularly. Little Blue Penguins are vulnerable as they nest close to the shoreline. Dog controls are particularly important, along with controls over vehicles on beaches where there are nesting shorebirds. Good educative signage, dog free, dog leashed, and dog freedom areas need consideration. Tarkohe has the potential to be an amazing penguin research and educative centre with the potential for appropriate tourism. All development here needs to enhance this.
- Coastal protection. With climate change, coasts need to be able to migrate inland with habitat for those species inhabiting that zone. Many of these are already seriously threatened.
- Freedom camping sites need to be away from sensitive areas. Taupata Pt camping area should be closed immediately.
- Shorebirds - Dog control and banning vehicles on beaches where shorebirds and penguins are nesting. Closing Taupata Point freedom camping area.
- Remnants of coastal indigenous vegetation e.g., Moturoa/Rabbit island, Rough Island and other islands in the Waimea Estuary

- Coastal and marine areas - beaches, dunelands, estuaries, e.g. coastal care groups and (for instance) the little Kaiteriteri Blue Penguin group
- Coastal ecosystems including beaches, dunes, estuaries and river mouths protection of specific vegetation - from Spinifex, pingao/sedgeland, sea rush, oioi etc. to northern rata, rimu, kamahi etc. e.g. Parapara/Motupipi/Mangarakau/Wharariki/Kaihoka etc in Golden Bay)
- Beaches throughout both Tasman and Golden Bays for shorebird activities. It should not be acceptable for dogs (whether on leads or not) or vehicles) to be allowed on beaches at any time. Currently there is no protection provided under the Dog Bylaws (or any other legal requirement) for the protection of birds from harassment.
- Coastal habitat – increasing amount of work going on, but still suffers from poor integration with planning, and lack of recognition, protection and investment
- recognize the problems with growth, and recommend the TDC stops pushing for more.

#### 4.4.4 Freshwater

- Freshwater (rivers, wetlands)
- Virtually all lowland rivers with exotic forestry catchments.
- All freshwater streams running through farmland need fencing and planting.
- Places like Waimea and Motueka River deltas are very important and have high potential for wetland restoration e.g. for marsh birds (incl bittern) and giant kokopu.
- Waterways
- Fresh water aquifers and waterways need to be protected from contamination of all kinds including nitrates.
- We have urged on many occasions that there must be better care of our freshwater habitats, coastal habitats, reserves and land management.
- Aquifers
- Small lowland streams.
- waterways and creeks that lead into the ocean especially around Riwaka main road
- Motueka river, clearing after storms
- Smaller waterways, not so important but are lacking management
- small urban streams.
- Fresh Water habitats. Native fish are declining alarmingly. Whitebait habitat 'needs protection and restoration. Pollution of waterways remedied; shaded riverbanks increased. Long finned eels given protection, whitebait rules introduced to help protect these species.
- Braided river beds for protection for nesting birds e.g. on the Buller and Matakītaki Rivers.
- The present government's reforms of freshwater legislation and requirement to address the pollution and degradation of our waterways must not be shied away from. TDC again has shown little concern, much less enthusiasm for turning around this decline in our freshwaters. This has to change, with greater enforcement of the regulations already in force and those still to be formulated. The agricultural sector must accept that the days of nutrient pollution of groundwaters and from these into our streams, rivers and lakes are over and this denial of the realities of eutrophication by improper use of synthetic fertilisers will no longer be tolerated. Monitoring of synthetic fertilizer purchase and application is an obvious first step and would require little funding input. Our native galaxiid fish species, five of which collectively comprise the whitebait population are in serious decline, again as a result of several factors but notably streamside habitat loss, and over-fishing. Likewise our eel populations show significant loss, and the long-fin eels have dramatically reduced in

numbers. Greater protection by substantially reducing fishing pressure is urgently required, but also encouragement to improve streamside margins with riparian plantings in pastoral lands to allow spawning to occur.

#### 4.4.5 Wetlands

- Wetlands
- Wetland habitat
- Rivers, wetlands and estuaries
- waterways in general, Golden Bay, which is an outstanding natural landscape, yet it is being over-run by the marine farming industry,
- Wetlands should be fenced and anyone digging, draining or infilling these, need to be educated/prosecuted. Council needs to provide better regulation, enforceable consent conditions, robust planning rules and energetic compliance as well as education and input into Community projects.
- Our wetlands
- Wetland areas.
- Our diminishing wetlands
- Wetlands are natural habitats for many native species as well as our marine habitats. They are under constant threat from pollution, climate change, dams' and introduced species.
- The numerous small wetlands
- Wetlands - enforcement of protection for mapped wetlands, e.g. fencing and excluding stock.
- Freshwater wetlands all over the district - remove pest plants such as willow and protect others from invasion.
- Wetlands are special areas with few remaining unmodified. There must be strict enforcement of the banning of any further disturbance to identified wetlands including estuarine saltmarshes.

#### 4.4.6 Karst

- Subterranean and karst biodiversity is an undervalued component of Tasman's resources.
- the karst lands
- karst land
- Karst: An outstanding natural feature in the Pohara area and totally infested with pest plants.
- Karst environments host many very special species yet have no protection. There is endemism here which is vulnerable as much cannot relocate.
- In addition to this Golden Bay has one of New Zealand's largest and most important karst areas. And associated with this is some of the clearest water in the world at New Zealand's largest spring, Te Waikoropupū. The reason for this clarity is because the bacteria and stygofauna that oxidise the organic matter as the water moves in the karst system. This ecosystem evolved over millions of years and is most likely to have been adapted to very low nitrate-N concentrations. Unfortunately nitrate has been increasing as farming in the Takaka Valley has intensified. Unfortunately, the endemic organisms involved are poorly researched but nevertheless need to be recognised and protected. For more detailed information see the Water Conservation Order for Te Waikoropupu Springs and Associated Aquifers, particularly the evidence of Fenwick, Williams and Mead. The Strategy to protect these Karst Aquifers would be for TDC to strongly support the Water Conservation Order.

#### 4.4.7 Riparian margins

- Riparian margins in public ownership as (unopened) Road Reserves adjoining roads and private land. These areas have a high potential to restore native landscapes, protect waterways and act as wildlife corridors. They occur throughout the region and have often been left to adjacent landowners to graze, or allowed to proliferate exotic scrub and blackberry. New requirements to fence agricultural-riparian margins create opportunities to locate fencing on the legal boundary where this has not been subject to movement of riverbed.

#### 4.4.8 Lowland

- Lowland areas of bush- actually need to re-establish these as nearly all gone now.
- Remnants of lowland forest e.g. the Wakefield remnants

#### 4.4.9 Mountains

- mountains

#### 4.4.10 Urban

- Urban, suburban and rural environments
- When Bio Strategy is talked about I would like to see included the effect of urban sprawl. The ( What I see as an environmental disaster) housing and lifestyle explosion on coastal and inland areas between Richmond, Motueka and Upper Moutere. Very hard to take authorities seriously, wanting to be involved in our valley, when they have approved such things. I would like to see the Strategy
- Thought needs to be given to fostering biodiversity in urban areas. In this respect and elsewhere in the region many introduced plants can be helpful to some native species. A good example is how the native pigeons feed on tagasaste (tee Lucerne).

#### 4.4.11 Public land

- Roadsides where banana-passionfruit vines are not even being controlled.
- The public spaces in Golden Bay coastal areas infested with pest plant species need attention. From Pohara to Ligar Bay.
- National Parks and public areas and private land need to be incorporated into the strategy. Getting the public involved is a key aspect for the success of any large-scale strategy.
- All DOC Stewardship land

### 4.5 SPECIES

#### 4.5.1 General

- In spite of the growing crisis for all our native plant and animal species there was little obvious effort by the council to make any beneficial changes.
- In addition to those freshwater species mentioned above, we have too many other identified terrestrial, and marine species requiring protection to boost their numbers. Little blue penguins need secure nesting sites and good fish stocks for their food resource.
- Following the completion of the determination of SNAs, ONLs and ONFs, other species under pressure or worse exhibiting marked decline will be identified.

#### 4.5.2 Plants

- Mistletoe populations

- *Scutellaria novae-zealandiae* (NZ skullcap).

#### 4.5.3 Birds

##### 4.5.3.1 Shore and seabirds

- Every effort should be made to protect sea bird habitat throughout Golden Bay.
- Migratory shorebirds need their roosting sites along the tidal margins and shell banks, and also feeding areas of the tidal sand flats protected from interference, particularly from motorized vehicles and dogs. Allowing 'freedom camping' at such sites as Taupata Pt in Golden Bay is incompatible with conserving the habitat for these iconic birds, for which this region is globally recognized.
- Oystercatchers on Marahau Sandspit
- Godwits have their long trip all year round and fly through many different places. If something changes then it could be completely messed up and it could be dangerous for the birds.
- Shore bird and migratory bird habitats e.g. blue penguins, oyster catcher, black and red billed gulls, dotterels (e.g. human, vehicle and animal disturbance)
- Penguins around Kaiteriteri, Split Apple Rock, Tower Bay.
- The Mohua Blue Penguin Trust (MBPT) thank you for this opportunity to participate in the biodiversity strategy. Our emphasis is on the survival and support for a thriving Little Blue Penguin (LBP) population in Golden and Tasman Bay. The MBPT have been active now for just 18 months and have achieved much for the LBPs that share our beaches. Public funding and local effort has established beach signage, penguin nesting boxes and enhancement, school programs and events, a nesting site register, trapping programs, research development and local awareness to name some. A biodiversity strategy would now fit superbly alongside this huge work. The sort of strategy we would like to see that supports and enhances this work would include: A recognition that LBPs have the capacity to thrive in Tasman as well as provide opportunities for tourism, education and an indicator of how well our biodiversity is doing. To this end they need ongoing safe nesting sites, predator controls, habitat enhancement and educational opportunities. In developing a strategy that could provide this TDC needs to:
  - a. Control dogs on beaches that have significant LBP populations. Dogs are the biggest threat to LBPs on beaches. These sites are already known and mapped. TDC must register these sites. The expensive work has been done. This could be combined with a serious intention to protect our declining shorebird populations along with LBP sites, thus giving Golden Bay, and Tasman, a worthy reputation as a shorebird capital of NZ. Much of this work has already been done in Golden Bay by the MBPT and Forest and Bird. TDC needs to make realistic dog rules on beaches signifying where dogs may or may not be exercised in a beach sharing manner. We suggest the traffic light system – red - dogs prohibited, orange - on lead, green - off leash, under control. Our Trust is willing to help with information to implement this. All of our beaches are off leash under the Dog Control Bylaw 2014. It is unacceptable that there are no measures in place to protect our little blue penguins from their major predator, dogs, who have unlimited access to all of our coastal nesting sites.
  - b. Support for research, at Tarakohe in particular. Any development at Tarakohe needs to recognise this as a site of National importance for LBPs and protect and enhance it including fencing off the Western arm. This area has huge potential to benefit our knowledge of LBP s and will provide education and tourism opportunities for Golden

Bay. There is already significant effort going into research here by Massey university, supported by the Trust. Eventually Tarakohe has the potential to be even more significant to the local economy than that to Oamaru. All decisions on Tarakohe need to take LBP sites into consideration and to make their survival as important as the aquaculture industry. A community science project involving both education and research is in its early stages of development. Support for this in a strategy is crucial. Research and education are fundamental to ensuring the ongoing survival of this species.

- c. Coastal nesting sites need to be protected. Many of the nesting/moulting sites are on private land. These need to be given the protection we are offering our wetland remnants.
- d. Coastal erosion and sea level rise pose a significant threat to LBPs. Any coastal development that involves disturbing penguin nesting sites must be outside penguin occupation times. This information can be provided by the Trust. Resource consent applications could easily be passed on to the Trust for comment. The West Coast Blue Penguin Trust currently have this arrangement with their local Council. Migration inland as sea level rise threatens nesting sites needs to be available. This could be achieved with good coast care planting, education of land owners and TDC support for fencing. Some controls need to be placed on vehicles on beaches to protect the shoreline from unnecessary damage. With more and more quad bikes coming over the hill to access our beaches it is also becoming a health and safety issue.
- e. Along with many threatened bird species on our coasts LBPs could feature in a strategy that recognises Golden Bay as an exceptionally important shore bird area. Much research identifying coastal bird populations has already occurred, this does not need to be done again. It needs serious intention to protect and enhance this wonderful biodiversity we have remaining.
- f. We ask TDC to develop a strategy that has clear guidelines, robust monitoring and the development of a resource that could provide wonder and education. Within this strategy there needs to be a clear strategy for the protection and enhancement of our marine environment. Our Trust would be a willing partner in such an undertaking.

#### 4.5.3.2 *Terrestrial and freshwater birds*

- Whio/ blue duck is a threatened species only found in New Zealand its estimated that there are less than 3000 still alive. The blue duck is one of the only ducks that prefer rapids and swift flowing water, so we need to continue protecting our fresh waterways
- Kea are really struggling and now have been found to be taking 1080 bait and dying. The kea population at Nelson Lakes has been hammered by successive mast years.
- Native parrots and parakeets.
- Great spotted kiwi in the Upper Buller Gorge.
- Rock wrens
- Rock wren and kea – high country habitat

#### 4.5.4 *Marine Mammals*

- Marine mammals and their habitats need to be protected.
- There are very few Maui dolphins left, only about 50, they are very endangered and need more care.

- Maui dolphins are also an endangered species that are endemic to NZ with only around 55 left, 15 of them being breeding females
- Hector's and Maui dolphins desperately need intervention by way of restricting netting to save their populations that are hanging on by a thread only.
- Hector's dolphins, ban of nets is good but could do more
- Maui dolphins are threatened by fishing nets and seabed mining. If these dolphins go extinct it MAY upset the ecosystem and it would be a big loss to lose these beautiful dolphins.

#### 4.5.5 Terrestrial mammals

- Our bat populations need urgent help
- Long tailed bats
- Long-tailed bats and other species that are associated with beech forest habitat that is under serious threat with masts, and wasps

#### 4.5.6 Reptiles

- Many of our native plants and lizard populations required increased predator control in certain areas to maintain viable populations.
- Skinks and geckos
- Lizards (threats from predation, e.g. cats)

#### 4.5.7 Invertebrates

- I spend a fair amount of time looking at large flightless beetle species around the Tasman District. Some pockets, especially alpine and high-altitude forest are still reasonable, due to their climate and lower predator populations. Below these areas, some reasonable areas remain, but pest control seems to have a big benefit - this includes wasps, pigs and rodents for the species that I look out for. For example, the lowland forest at Rotoiti seems fairly poor for invertebrate life.
- Invertebrates, especially in the beech forest where *Vespula* wasp predation is extreme, and more widely for butterflies for which Tasman is a hot spot of diversity with 18 species present of the 19 recognised by [www.inaturalist.nz](http://www.inaturalist.nz) as native or self-introduced to Aotearoa. Many are at risk or in reduced numbers, with *Polistes* (paper) wasps considered a threat outside the beech forests. *Powelliphanta* snails for which the Northern S.I. is centre of endemism are in need of protection from the impact of possums, pigs and European song thrushes.
- Don't know enough about insects – entomology

#### 4.5.8 Fish

- Whitebait sales need to cease as it encourages overfishing of this resource.
- Ban white baiting from smaller tributaries and streams
- A specific species that needs protection are our rapidly decreasing eels, the magnificent long finned eel which takes approximately 90 years to reach the age at which mating can occur has rapidly declined. Eel fishing by commercial interests must be stopped immediately. Also the move to allow the sale of whitebait, at a time when our native fish stocks are known to be in decline is sheer stupidity. Stop it now.
- There is also a unique opportunity regionally for FG to work in collaboration with Iwi/DOC around the rearing and re-introduction of rare migratory galaxiids into lowland habitats they once existed as outlined in Paragraph 10 of the attached regional FG submission we provided to the national biodiversity strategy – be great to acknowledge this future

opportunity within the strategy somewhere. You will also note in the attachment the significant overlap that exists between introduced trout fisheries and native fisheries in terms of water quantity/quality improvements benefitting all species. While I support the indigenous species focus of the strategy, it may also be useful to acknowledge the role of valued introduced species such as trout and mallard ducks that FG manage, which provide resourcing (from fishing/hunting licence sales), to achieve positive habitat outcomes, for example water conservation orders (Motueka/Buller), preserving flows and water quality for both trout and native fish, and wetland creation benefitting both native/non-native gamebirds that FG manage plus other non-hunted wetland dwelling birds, wetland fish etc. Not sure how specific the strategy needs to be here, perhaps just a simple acknowledgement around the future potential for introduced species management to also potential benefit native species, and that this is a future regional collaboration opportunity if various agencies work together on this.

- Whitebait - banning the sale of whitebait, and introducing catch limits for all white baiters.
- Protection of native eels by banning commercial fishing.
- whitebait, from overfishing & habitat alterations

## 5 ISSUES

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### ANALYSIS

People identified a wide range of issues that the BioStrategy should grapple with.

**Climate change** was central to many peoples' concerns. *Climate change is upon us, and needs to be addressed urgently, both as regards mitigation and adaptation. Our biggest challenge is CLIMATE CHANGE. This should be the guiding premise of ANY and every policy created by all governing bodies. We have a responsibility and a possibility here – we MUST act now and could have a chance to preserve what we have and in time reverse the devastation that has already taken place.* People addressed the potential linkages of biodiversity and management with:

- emissions reduction and sequestration
- adaptation and mitigation
- leadership requirements
- potential impacts.

**Pests and weeds** were the biggest issue identified by people for biodiversity and biosecurity. Amongst exotic mammals most concern was expressed about better management of **cats**. These were classed along with rats, stoats, ferrets and weasels as biodiversity threats. Goats were also noted as an emerging issue in some places. The exotic insects that drew most attention were introduced **wasps**. The **weeds** of greatest concern were vines such as Old Man's Beard and trees such as wilding pines.

A range of land uses were seen as having potential adverse impacts on biodiversity. Most often mentioned was **exotic forestry**, with some comments also about **horticulture and agriculture**.

Direct **people pressure of concern** included development, habitat destruction, population growth, and visitor impacts. The major land uses of **exotic forestry, horticulture and agriculture** were identified as having a suite of issues in which the effects on freshwater environments was the most prominent. Issues associated with **visitors and population growth** were also mentioned.

Five specifically **marine** issues were identified:

- Seabed degradation and sediment impacts
- Vessel impacts
- Fisheries effects
- Noise
- Aquaculture growth.

**Freshwater** issues were drainage, runoff, and waterway degradation.

Comments about **chemicals** were polarised. Some sought cessation of a wide range of chemicals perceived as damaging. Others saw an anti-chemical lobby as potentially obstructing effective action on pests and weeds to protect biodiversity.

Many people commented on **culture** changes needed if biodiversity goals are to be achieved. These included positive or negative aspects related to:

- Trust
- Anthropocentrism
- Economic growth
- Effectiveness of administration
- Eurocentric thinking
- Leadership and governance
- Technocratic thinking
- Kaitiakitanga
- Aligned purpose
- Generational thinking
- Collaboration
- Reliance on volunteerism.

People commented on a need for **knowledge** about biodiversity and biosecurity and the **expertise** needed for different aspects. They suggested that **economic** models need to change if biodiversity goals are to be achieved. Tighter **regulation** was sought by some while others noted a lack of compliance with current **regulations** related to biodiversity. **Marine reserves** were suggested to be an important legal provision in the marine environment.

## 5.1 CLIMATE CHANGE

### 5.1.1 General

- Climate change is upon us, and needs to be addressed urgently, both as regards mitigation and adaptation. The discussion document is too tentative in this respect. The section on p7 mentions how climate change “might” affect biodiversity, “predicted impacts” and that changes “will” adversely affect natural biodiversity. However, hard data show that temperatures, rainfall patterns, sea level rise and ocean acidification are already happening, and that these changes are impacting on indigenous biodiversity now. Over the last three years the region has experienced drought (and a major fire) and cyclones that caused floods, landslides, coastal storm surges and salt-water intrusion across the region. These climate changes have already affected indigenous ecosystems at all altitudes and are also driving

changes in the ranges of invasive pests and plants across the landscape. The profound impacts of climate change-induced drought on many regional SNAs were presented in detail during the BioStrategy meeting at Saxton Field in August. This is a major cause for concern. The Tasman BioStrategy needs to highlight the fact that the natural environment is already suffering the effects of climate change, and that the need for action is urgent.

- On page 6 of the document, the wording should be changed to "These changes are already happening" - the longer it is pretended that global warming is a 'future' problem, the less chance there is of actually achieving something.
- Climate change has the potential to affect us greatly - more unstable weather conditions will affect Council's balance sheet, road repairs, coastal protection, etc. Climate change prevention measures need to be woven into any biodiversity strategy - protection of carbon sinks, degraded land needs repaired, trees planted, and significant ecosystems restored.
- Climate change - sea level rise, soil moisture/temperature etc
- Climate Change. This is the biggest threat to biodiversity, and any council has an obligation to put climate change thinking into all legislation that would affect biodiversity.
- ... and of course the effects of climate change on not only sea-level rise, storm events etc. but also increasing temperatures of the sea (encouraging vegetative growth as well as fish diseases and other infestations) and acidification.
- Finally. Our biggest challenge is CLIMATE CHANGE. This should be the guiding premise of ANY and every policy created by all governing bodies. We have a responsibility and a possibility here – we MUST act now and could have a chance to preserve what we have and in time reverse the devastation that has already taken place.
- Climate change
- The single most important action to sustain a diverse and healthy native flora and fauna is to halt and reverse the global heating that is causing climate change. The broader context of climate change is explicitly included in the Working Group's Terms of Reference. To achieve this we must reduce drastically and quickly the amount of oil, gas and coal we are using, and re-organise our personal lives and society accordingly. All levels of government have a part to play in it. "The scientific evidence is that if we have not taken dramatic action within the next decade we could face irreversible damage to the natural world and the collapse of our societies."<sup>1</sup> "All of the calculations show that we're on track for a 3 to 4 degree [warmer] world"<sup>2</sup> This 'dramatic action' will include replacing the doctrine and mindset of 'growth'. There is argument among economists over what GDP truly represents, but from ecology's viewpoint it is a fair measure of the annual cost to our environment of supporting our collective lifestyles. There is chatter and wishful thinking about 'decoupling economic growth from environmental impact' but so far no success nor prospect of any. The doctrine of growth assumes we can take more from our environment each year and dump more waste back into it than the year before, in exponentially increasing amounts. It is flagrantly incompatible with the 'holistic thinking inherent in mātauranga Maori where the human community exercises kaitiakitanga in its interaction with Te Taiao'. That is a key phrase in the Working Group's Terms of Reference. We people have taken half of NZ's land area for exotic grassland, settlements, crops and exotic forest.<sup>3</sup> The effects on native habitat were described in heart breaking detail by Geoff Park in his book 'Nga Uruora'.<sup>4</sup> We need to acknowledge our agency in this, and in the interest of biodiversity we may wish to reconsider some of our choices. What we need in place of 'growth' is the concept of 'enough'. When we can provide for ourselves with less economic activity than last year, that will indeed be progress. This does not mean living in poverty; if poverty; if done thoughtfully

it would support pleasant and creative lives for us all. On the other hand, following a 'business as usual' path will result in miserable conditions for us all, and will diminish our biodiversity along with ourselves. The foregoing matters, which we people are responsible for, have by far greatest impact on native biodiversity in NZ, and correspondingly offer the greatest opportunity for improvement. In comparison, fussing over which exotic plant and animal species to poison or otherwise kill is mere tinkering around the edges. We must first acknowledge our own far greater agency in destruction of biodiversity and do something about it.

#### 5.1.2 Emissions reduction and sequestration

- Blue carbon: sequestration in coastal/tidal ecosystems such as salt marshes and seagrass meadows can be very high, and the region contains two large bays where this could have potential.
- Control/eradication of herbivorous pests such as possums results in greater growth rates and enhanced carbon sequestration in indigenous forests
- the BioStrategy could encourage development of certification schemes that allow local businesses to offset their emissions by financing biodiversity-related carbon sequestration actions in the region. Is there also scope to value biodiversity itself within such a scheme?
- Carbon sequestration is one aspect of climate change mitigation. Reductions in gross emissions are also needed (urgently and at scale) in order to reduce negative impacts on biodiversity. This links the Tasman BioStrategy to the wider TDC's Long Term Plan and the Climate Action Plan.
- Make developers quantify & notify carbon footprints & focus more awareness on EROI & biodiversity.

#### 5.1.3 Adaptation and mitigation

- Climate change is upon us, and needs to be addressed urgently, both as regards mitigation and adaptation. Hard data show that temperatures, rainfall patterns, sea level rise and ocean acidification are already happening, and that these changes are impacting on indigenous biodiversity now.
- future estuary sites to plant and otherwise prepare for movement inland of coastal species
- Coastal/estuarine ecosystems are under particular threat from rising sea levels, storm surges and salt-water intrusion. These ecosystems will need to migrate inland over time. It is critical that land use planning across both Tasman and Golden Bays recognises this inevitability and protects these coastal-adjacent areas from further development (which is highly risky, in any case, given their location). Preparations should be made for eventual managed retreat, including through conversion from productive farmland to ecological reserves where appropriate.
- Climate Change. Cease development along vulnerable shorelines. Land purchase for habitat retreat of estuarine ecosystems.
- Healthy ecosystems and healthy biodiversity can limit climate change and mitigate the impacts:
  - a. Healthy indigenous biodiversity and soils can sequester high levels of carbon, acting as a carbon sink;
  - b. Healthy ecosystems protect coastal areas, enhance water quantity and quality, limit floods during high intensity rainfall events, lower the risk of biosecurity incursions;
  - c. Healthy indigenous biodiversity can act as a heat sink and in urban areas, provide significant cooling to combat urban heat build-up.

- d. Old growth forests and regenerating indigenous ecosystems play important roles in carbon sequestration

#### 5.1.4 Leadership

- Failure to take concerted measures to address climate change and its' impacts.
- Most important barriers - This Council.

#### 5.1.5 Impacts

- Note that climate change impacts are both direct (sea level rise, floods, drought, landslides) and indirect (e.g. changes in the ranges of indigenous species, plus animal and plant pests due to temperature increases & rainfall changes over time).
- Changes in rainfall patterns are happening already, resulting in droughts and ecosystem deterioration. The BioStrategy needs to engage with TDC water rights (allocation/abstraction) policies and regulations to ensure that minimum ecological flows are maintained at all times, and that aquifers are allowed to recharge (and not suffer repeated depletions) in order to reduce drought stresses on the natural environment while also providing for essential human needs.
- The unique biodiversity and ecosystems of Nelson Tasman are vulnerable to the impacts of climate change by:
  - a. Sea level rise and saltwater intrusion;
  - b. Ocean acidification;
  - c. Increased adverse weather events – storm surge, heavy rainfall;
  - d. Increases in biosecurity threats, and favourable circumstances for increased pests, weeds, and diseases;
  - e. Increasing temperatures;
  - f. Changes in rainfall patterns – increased drought, increased rainfall intensity, floods; fire risk
  - g. Increased human population with climate change refugees putting more pressure on ecosystems.
- However, climate change is already having an impact on existing ecosystems. If the impacts of climate change become too severe, ecosystems will become less resilient and animal and plant species will be lost. Some ecosystems may collapse altogether, resulting in the loss of our existing carbon sinks (a feedback loop), and the loss of yet more habitat and biodiversity. Lower ecosystem resilience also poses an increased risk of biosecurity incursions, with the associated adverse effects on biodiversity, all related to thresholds of irreversible collapse.
- Fire: This important threat to biodiversity has contributed widely in the past and is an increasing risk as climate changes, as has been shown in Australia, North America and Siberia. We need to be planning our response to such predictable threats long before they are on hand; that means now! The locations for extensive plantings of new forests to meet climate change goals need to be carefully controlled to avoid placing existing natural ecosystems at added risk from fire.

## 5.2 PESTS AND WEEDS

### 5.2.1 General

- Weeds and predators
- Pests
- Invasive weeds and animal pests.

- Possums, stoats and rats (in order of increasing damage and increasing difficulty to control effectively)
- Pest control ideologies.
- Pest plants and animals.
- People, plant-pests, predator pest - the things people bring with them.
- Trap rodents and mustelids in the towns
- Introduced pests this includes Trout in our rivers.
- The usual pests - pigs, goats, deer, rodents, stoats. Making an impact on these in the future, hopefully with improved technology could give huge gains.
- Exotic species.
- Pests in our environment
- The amount of introduced pests in our environments killing native species
- Introduced species are a big danger to our native plants and animals. Animals such as stoats can cause a lot of damage to our native species by reducing numbers significantly. We need to get more traps set up to reduce numbers of pests such as mice, rats and stoats.
- Clearing pests from areas where many native birds and insects live and thrive. We need to protect our native species and diminish the population of pests while keeping the native birds and reptiles unharmed. We may be able to do this by increasing the number of pest proof fences around areas where many native species are known to thrive such as the Brook Waimarama sanctuary, and continue on our work with trapping.
- Weeds; Animal pests;
- Vermin such as goats, mustelids and rats
- Introduced mammalian predators (including pigs), wasps and weeds.
- Plant and animal pest species increasing – any “management” must also include proper management of not only dogs but also cats who should be kept on owners’ properties at all times.
- One threat to biodiversity in Tasman is invasive weed species. Another is introduced mammals that prey on native birds. A third threat is intensive agriculture.

## 5.2.2 Exotic mammals

### 5.2.2.1 *Predators.*

- Introduced predators
- Supporting predator control in biodiversity hotspots.

#### 5.2.2.1.1 Mustelids

- Pests E.g.: Stoats, Rats, Ferrets.
- Mammalian carnivores and omnivores are well known for their impact on native species. Some are the target of Predator Free 2050 but equally some are not, including mice, hedgehogs and cats. Professor Carolyn King suggested decades ago that to control predation by introduced mammals efficiently you needed to target all of the predator species in the target area in unison otherwise there is a risk of simply replacing populations of one predator with larger populations of others. For example, eliminating rats and mustelids that also predate mice could lead to a massive increase in the latter with disastrous effects on invertebrates and reptiles. It is possible that possums or hedgehogs could be targeted individually because they are not themselves the targets of other introduced predators, but then again reduced competition could lead to increases in other exotic predators. Mammalian herbivores including goats, deer, hares and rabbits have had and continue to

have significant impact on native flora and habitat. Introduced birds especially passerines pose another threat which is yet to be quantified. Not all of the many species venture into natural ecosystems although blackbirds, thrushes, chaffinch and hedge sparrows can be found in montane forests up to the bushline or higher. At least the first three predate invertebrates especially to feed their young, while blackbirds are known to take native arboreal geckos. The considerable numbers of blackbirds and chaffinches also suggests they must be significant competitors with native species in natural ecosystems and have reduced numbers of the latter. Some non-passerine species such as magpies are also of concern.

#### 5.2.2.1.2 Cats

- With domestic and feral cats being a huge component of bird fatalities, we need to impose rules on cat owners to keep these predators on their own properties.
- While hundreds of volunteers throughout the region re-establish native plants, weed out exotics and trap predators the council can't even formulate a cat policy which would bring these predators into line with other household pets.
- Stringent cat laws are needed. They are very effective killing machines and should be controlled by being neutered as a matter of course. They should need registration and microchips. The law that says they are free to wander from their properties should be abolished and a curfew, is common in Australian states should be imposed.
- Pests: Cats, rats, stoats etc. Wonderful work being done but not enough. Couldn't we introduce regulation on cats now? Loved pets by some but active hunters in our neighbourhood reserves and further afield.
- TDC could use predator free NZ to eliminate predators. Cats are a serious predator on biodiversity animals. Cat policies containing cats to their owner's properties and even cat free subdivisions and areas are needed.
- Cats (and dogs)
- Cats control. Domestic cats serve as valued companion animals. However, all cats are hard-wired as predators, and given the opportunity will hunt. As apex predators they have the capacity to inflict substantial damage on urban /suburban wildlife particularly birds. In rural areas, feral cats are a much larger problem than widely acknowledged. All domestic cats should be confined indoors at night, in all areas. Registration of all domestic cats must be made obligatory. Neutering of cats could be subsidized to encourage better control, particularly in rural areas.
- Our biosecurity focus in this submission is purely focused on cats across all the ways they interact with humans and their environment. Thank you for taking the issue of our distressed environment seriously, and we note with optimism the mention in the Biostrategy your desire that this will lead to action and community involvement rather than just being another forgotten paper weight. Essential components in relation to Bio-diversity: Cats become a problem when individuals and communities fail to care for them as pets. Neglected, lost and abandoned cats will wander and become strays. Unmanaged fertile strays eventually create feral populations and are subsequently included in 'Pest management Plans'. What we all agree on is not wanting a population of feral cats in the wild. It's not even good for the cats. The manner in which the DOC, TDC and the community manage cats is instrumental in mitigating their impact upon local ecology. <sup>(1)</sup> We know from DOC that there is a growing problem with feral cats in our wild places. What we as a council and local community can do in this situation is to minimise the flow of companion and stray cats into those places. By TDC following best practice as set out in existing publications such as "A Code of Welfare for Cats Created for Councils" <sup>(2)</sup> and the MPI "Companion Cats Code

of Welfare”<sup>(3)</sup> we hope to ultimately have a positive impact on saving our endangered species. We suggest.....This can be achieved in 4 ways:

- First, we agree with Forest and Bird’s new Cats Conservation Policy which states “promotion and regulation of responsible domestic cat ownership, particularly the sterilisation and microchipping of all domestic cats.” This requires TDC involvement in education and eventual policy region wide. For example, TDC already runs an annual microchipping drive for dogs. We need the same for cats.
- Second, by supporting and providing financial assistance to welfare groups that attend to the TNRe (trapping, de-sexing and re-homing) of feral kittens, and socialised strays. TNR has been shown to be a valuable tool in managing cat populations at the local level.<sup>(4,5,6,7)</sup> Robertson reviewed the scientific literature on feral cats and feral cat control and concluded that there is scientific evidence that TNR with continued funding and endorsement by private welfare organizations, municipal and government agencies, can control feral cat populations. (Robertson, 2008) An Australian TNR stray cat colony program found a 31% reduction, through a combination of trapping, de-sexing and re-homing of social cats and kittens. Tan, K., et al. (2017). A Texas University program implemented on campus, found there was a 36% reduction in the number of cats. Hughes, K.L. and Slater, M.R. (2002) Auckland City Council recognises TNRe as the recommended and humane method of stray cat management, effectively reducing numbers of stray cats/kittens. They assist recognised cat rescue groups who undertake it.<sup>(8)</sup>
- Third, Promotion and Education to ensure responsible ownership of companion cats is defined, understood and complied with ( within a region-wide TDC initiated cat ownership strategy).
- Fourth, an effective communication pipeline between selected council officers/staff and key stakeholders in devising cat By-law and policy.
- Supporting these 4 initiatives within a comprehensive local Cat Management plan will achieve one of the Priorities in the Discussion Document “A Tasman BioStrategy’ to Anticipate and prevent, contain, or mitigate future risks.<sup>(9)</sup> This multi-solution approach is a win win, and will save lives. In contrast to a multi-solution plan, all the goals of the National bio-diversity plan 2025 focussed exclusively on removal of “invasive introduced species”. (10) Because of the impact humans have had historically, and continue to have on ecology we certainly need to intervene, but we must be mindful that our history has shown changes in population dynamics have far reaching effects and consequences we cannot envisage. Instantly removing a species from an area leaves a gap; usually more of the same species moves in or encourages another species and can disrupt the balance in ways we cannot foresee. It has been noted in many areas that rabbit and rodent numbers increase dramatically upon total cat eradication; conversely, the numbers of these pest species are kept stable and relatively low in the presence of cats. (11) Having said that, you cannot remove stoats and rats (the main food source) from an area while ignoring feral cats as they will then only have birds and reptiles left as a food source and you have in effect further damaged what you are attempting to save. Outside of a holistic approach culling is often futile and ultimately detrimental to the targeted species and to those we are attempting to protect. An example in point: A case study on Effects of low-level culling of feral cats in the forests of southern Tasmania showed that low-level ad hoc culling of feral cats can have unwanted and unexpected outcomes. Despite culling efforts, contrary to expectation

researchers found large increases in cat numbers: one site had a 75% increase, while another had a staggering 211% increase. Researchers suspect that the populations increased because new cats moved into the sites to take advantage of resources that became available when previously dominant cats were removed. Another explanation could be that kittens born to the un-sterilised remaining cats had a better survival rate thanks to more readily available resources. The study concludes -If culling is used to reduce cat impacts in open populations, it should be as part of a multi-faceted approach that needs to be strategic, systematic and ongoing if it is to be effective. <sup>(12)</sup>

- At present the only management of cats is in ‘pest management plans’. This is problematic because if the only strategy is to kill feral cats living in the wild it is too late to mitigate the population increase that will follow and the adverse effects on native fauna. The solution is a comprehensive strategy; one that understands cat ecology, and deals with the multifarious complex issues at all stages, starting from ensuring people are responsible, care for, de-sex and microchip their cats through to supporting de-sexing and re-homing of feral kittens and socialised strays. Legislation and plans must recognise that all cats are sentient beings regardless of the categories used to describe some aspect of a cat’s relationship to humans. With this in mind, it is important that conservation groups trapping cats should be registered, keep records and act in accordance with the Animal Welfare Act 1999.
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12. Billie Lazenby, Nicholas J. Mooney, Christopher R. Dickman University of Sydney 2014 'Effects of low-level culling of feral cats in open populations: A case study from the forests of southern Tasman Article in Wildlife Research 41(5):407 · January 2014 with 212 Reads DOI: 10.1071/WR14030

#### 5.2.2.1.3 Browsers

- Forest and alpine browsers
- Goats. A huge increase in Kahurangi Park.
- Ungulates across public and private land, especially adjoining conservation land/national park

#### 5.2.2.1.4 Possums

- Possums, mustelids and Rats control. Incentivising property owners to expand these activities, in order to create 'islands' of pest free – or at least, substantially pest-reduced areas, would work in co-ordination with, and support to extend the larger scale activities of DOC and OSPRI. Making trapping tools available cheaply (i.e.. Subsidized for monitored trapping work) would encourage wider uptake and coordinated efforts of local property owners, particularly in rural areas of high predator pressure.

#### 5.2.3 Exotic insects

- Wasps. Paper wasps.
- Wasps are robbing our birds and other wildlife of sustenance. The German wasp has now been taken over by another type and paper wasps are numerous. Wasps generally are in dangerous proportions. We all should be encouraged to eliminate these pests on our properties on first sighting.
- Wasps
- Improving pest animal control - particularly wasps.
- Introduced Wasps: *Vespula* and *Polistes* wasps represent extremely significant threats in the Tasman region. *Vespula* wasps are a major threat to a wide range of invertebrates especially in beech forest ecosystems as a consequence of their use of beech honeydew to produce extremely high densities. They are also reputed to stress the honeydew host trees and predate nestling birds, and bats and reptiles in diurnal refuges. Research needs to be directed towards landscape level control and elimination, and new and more targeted techniques. Gene drive/editing holds a degree of promise and has been demonstrated in other insects such as mosquitos. Community wide debate about the relative effectiveness and acceptance of such techniques needs to be underway now in order to get on top of these pests and prepare for the day when they may be available for vertebrate pests. The urgent need for control posed by climate change could lead to the ability of wasps to colonise higher altitudes and impact on our alpine fauna.

#### 5.2.4 Weeds

##### 5.2.4.1 *General*

- weeding - protect native fauna from old man's beard, wilding pines, other species etc
- Weeds

- Good question - the Tasman Regional Pest Plan needs to have more effectiveness perhaps and then three important threats would be addressed. This plan covered the Nelson area in terms of pest plants and was totally ineffective in stopping the spread of Taiwan Cherry. Actions now taken in the Dodson Valley area came too late to prevent major work needing to be undertaken. Now there is an opportunity in Golden Bay to arrest the spread, but Council is not actively working on that. There are other innumerable pest plants currently displacing native plant habitat. Good work is taking place on animal pest trapping but clearing pest plants need more input.
- I submitted an online survey that I filled out rather clumsily at the time with a slant for my own personal fixation – which is pest plants. My partner and I spent many years on a large block of land in North Nelson endeavouring to eliminate pest plants – but it is an overwhelming and soul-destroying task. We have learnt to live with pest plants in New Zealand over the years – all the garden escapees, all the plants lifestyle blockers introduced that they couldn't control.
- Weeds (including on private land)
- Pest plant eradication. A good start has been made by several volunteer groups, but this work needs to be expanded to get on top of identified problem areas. Council support by way of co-ordination of isolated, separate and random efforts would be the first step to achieving better outcomes.

#### 5.2.4.2 *Vines and shrubs*

- Pest plants Tasman, old man's beard, banana passionfruit, jasmine etc.
- Italian jasmine is very invasive, pampas grass and velvet groundsel also. There needs to be a concerted effort by Council together with established biodiversity groups and individuals to prevent these weeds on private land becoming established in our National Parks.
- Old man's beard and banana passionfruit
- River weeds like convolvulus & OMB.
- Old man's beard is a real threat to our river valleys and native bush, we need to stop it spreading further into heads of our catchments.
  - Project De-Vine Environmental Trust (PDVET). PDVET started out as a community led weed busting group on Rocklands Road about 2005 to try and help neighbours with "overwhelming" numbers of Banana passion vines, which grew and grew. It applied for its first funding under the umbrella of Forest and Bird in 2010 to control Banana passion vine and Old man's beard around that area, which enabled it to employ a team to do the work. It has since expanded and aims to assist Golden Bay and Riwaka to Marahau landowners to get on top of the many invasive plants and trees that have spread through many areas of the Bay, with a particular focus around the halos of Abel Tasman, and more recently, Kahurangi National Parks. To date over 508k invasive plants or trees have been killed manually and many more sprayed in hard to reach locations. 407k are BPV, 55k are OMB, 18k are Woolly nightshade the others include Climbing asparagus, Willows, Sycamores and Pines. The work has so far assisted about 480 properties and has assessed about 650 properties. See Management Unit map. MU-C2 is being assessed now and MU-A, B and G2 are still to be assessed over the next three years with already secured funding. This will complete all Golden Bay and include the area from Riwaka to Marahau, excluding the properties around Canaan, who are part of an independent group. Project De-Vine has also established a contracting arm to its work to help it cover its operating costs. Notably it includes vine control for NZTA on the Takaka Hill, LINZ for the rivers of Golden Bay, many of TDC's reserves, the Motupipi River

Willow removal and replant project. It is increasingly involved with a wider range of work including riparian planting, willow, sycamore, and pine poisoning as well as removing unmanaged kiwifruit vines. We are averaging about \$140k of contracted work each year. The Trust has received over \$1.66 m in grants to date and has \$88k in applications currently pending. Current grants for pest plant control work is happening in MUs C1, D6, E, G1, and H1 totalling \$240k to use in this year. Likewise, follow up work worth \$22k is happening in D1, 2 and D5. It works closely with DOC, TDC and Tasman Environmental Trust to achieve its aims. As we spread across the Bay, our need for more funding options for follow up work is increasing. Sadly, only Rata Foundation are prepared to cover this work, but DOC's Community Fund did add it into their criteria, at our request, at last year's review. Now the word "overwhelmed" is seldom heard. However, on the other side of the Takaka hill a new word is surfacing: "desperate". This is because of the Old man's beard numbers reaching high infestation levels and even landowners who were complacent about their spread are alarmed and becoming spurred into action. Funding is harder to secure, as often there is no proximity to a National Park or areas with high biodiversity values. This conundrum needs to be addressed somehow. Properties with pest species infestations are less appealing to buyers. As you can see Project De-Vine Environmental Trust has grown to a significant landscape scale operation. It has developed its own strategy based on consulting with TDC and DOC staff as well as other sources of knowledge, in particular Forest and Bird whose expertise around the country helped shape our strategy. The needs of the landowners were also paramount to give them a feeling that these rampant invasive species could be tackled successfully and empower them with a/ sponsored free glyphosate gel and b/ identification skills learnt at working bees. The key plants in the RPMP that are control plants for Golden Bay are being dealt with in different ways:

- Banana passion vine – because we started right in the heart of the most infested area of Golden Bay, the opposite of the usual methodology, we have spread out from there and are covering the less infested areas as we reach western and southern Golden Bay.
- The same goes for Old man's beard but are surprised to find well established pockets of it occasionally.
- Woolly nightshade has primarily spread out from the large infestation near Rameka Creek across the Takaka valley with some isolated sites scattered in the Bay. The MU-D6, C1 and other grants are helping to stop its spread. The scattered sites are possibly linked to machinery spreading.
- Climbing asparagus has specific areas of spread around settlements as it was grown for its floral arrangement value. It is close to ATNP in Wainui and is being controlled annually there. A survey is starting soon to see how close it is to Kahurangi (KNP), as it spreads inland from Pakawau.
- Yellow jasmine is well established in eastern GB and spreading across the Takaka River valley. Control is starting between the Takaka River and Onekaka to deal with the only site found west of the Takaka River. Control in Craigieburn, where it is less established, is also happening to stop its spread into KNP. It is already well established in the Hamama area and is up to the KNP boundary, with not enough funding to tackle it yet. In Wainui, our team annually control it close to, as well as just inside, ATNP, with Janszoon / DOC funded contracts.
- Less common ones are dealt with as we find them.

- PDVET would like to see a more proactive management of weed spread with contractors informed about their responsibilities with occasional audits and quarries and riverbed extraction sites kept clear of pest plants and trees. and hence seeds. These sites should require an annual inspection for compliance.
- We would love to see the Tasman Bio-strategy adopt our approach. See our strategic plan attached. We are sharing data with TDC now on an annual basis.
- For reporting:
- We record the numbers of plants killed per property and summate if for each management unit, see the totals quoted above, which are published monthly in the Golden Bay Weekly and on our website and Facebook page. It is also used for reports for the landowners and helps them see the mature plants dwindle, the surge of seedlings and then their gradual decline, so they do not lose hope!
- Also, we have monitored a voluntary survey of 4 properties in Clifton that is now in its 11th year, with figures to end of June 2020 collected to date. They have counted the numbers of Banana passion vine seedlings (total 8533 to date) and the odd ones that reached maturity (total 140 in 10 years, most in the first 5 years). It is 4 properties that were already in PHASE 3 and moving towards PHASE 4 as described at the talk. They were clear of mature plants at the start of the survey. This is a good reporting system for specific properties and DOES show the tail end of the seedlings well. The two spikes you can see in the graph were due to: new areas of scrub or newly felled forestry being cleared.
- Finally, we have developed a system of reporting that allows us to show the progress in control of the many control plants and trees. This is based on a 4-phase process of eradication of each invasive plant or tree. See the summary in the Strategic plan of the definition and the summary map / table produced to date, which is being rolled out, wherever we receive funding for new areas of control, to start with. Ultimately this reporting will show the progress of control for each species of invasive plant and tree for all Golden Bay and the halo of ATNP to Marahau.

#### 5.2.4.3 *Trees*

- Get crack willows out of Aorere (locally important) while it is still possible vs spending money on Headingly (Richmond residential issue)
- Gravel is spreading buddleia and other weeds to the west coast roadsides, but the contractors and Council are not doing anything about it. Locally important. When things like this happen the locals get disheartened to spend money and effort to protect biodiversity on their land. Council and DOC has to care just as much if not more.
- Wilding pines
- Wilding pines are increasing exponentially on the dry hills of eastern Golden Bay.
- Recent highlight of Taiwan Cherry has not been meaningfully effective in Golden Bay. Trees I have identified to TDC are still growing – including in the hedge at Pohara Camp!

### 5.3 PEOPLE PRESSURE

#### 5.3.1 General

- More regulation and a thorough compliance effort needs to be maintained by Council to prevent harm to the environment, including noise, sediment, water extraction, water pollution and clearance of native vegetation for development

- re-wild our spaces - we have taken too much land for agriculture and homes - we must re-wild some spaces too. The only reason ATNP got made was because it was not suitable for farming!

### 5.3.2 Exotic forestry

- Erosion caused by forestry harvesting activities on fragile Separation Point Granite areas is destroying river, estuarine and marine environments.
- Forestry practices
- Every effort to cease the planting of pine trees needs to be implemented. The soil harming, sediment producing, and high flammability of these trees is well known. Every effort made to promote native tree planting can only aid our birdlife and soil.
- Pine Forest management should be looking to add pest weed and mammalian predator control to the forest management and workforce.
- Pine forestry on separation point granite
- Damaging forestry practises and associated wilding pines
- Best forestry practice - limits of how steep a slope is considered for forestry to potentially reduce run off / planning where run off is likely to occur, what is in its path, and how to mitigate run off - straw bales in waterways - no matter how 'insignificant' to reduce the sediment loads into waterways, and therefore into the ocean, • settling ponds to trap silt, • a permanent margin around waterways and the lower edges of forestry blocks to reduce silt from runoff (as farmers are being encouraged/supported to provide).
- Plantation forestry - unsympathetically managed and still replanted in crazy uneconomic locations. Legislation should require native margins, mosaic felling and better safeguarding of watercourses and other important natural features.
- Erosion from plantation forestry.
- Forestry areas that are allowing estuaries and wetlands to be degraded by silt run off
- Even though there is a golden opportunity for the council to restore a hillside i.e. Kingsland forest into native forest the council is suggesting part of it be planted back into exotics. If the council is genuine about restoration such a suggestion wouldn't even be considered. Exotic forest doesn't provide the food and habitats which would allow native fauna to flourish once more.
- Plantation forestry.
- Silting of estuaries and water from forestry is a significant issue.
- Remove places where one species of plant thrives and the rest just don't exist like rabbit island, plus if we have more diversity in plant species, that could lower the chances of wildfires like the ones we have had recently at rabbit island as some of our native plants tend to be a bit more durable and flame resistant than the common pine tree. Limit the big logging businesses to a certain area without making it so they can't make a profit from growing and cutting down pines. Another is pests, we all know that we have already done a lot to try and eradicate pests in New Zealand but we still have a lot of them, there are companies who can make amazing traps to stop them but don't have the money to so we could invest some money into those particular companies to help stop pests.
- More focus on logging and the potential danger of run off and slips.
- Over emphasis on growing *Pinus radiata*. Encourage & share research of forestry sector to improve timber production with better outcomes for biodiversity so could focus on species, logging approaches e.g. cable logging and ban ground logging etc
- Reducing sedimentation - mitigating erosion from forestry & development

- All plantation forests - just out to lunch, shameful rape of the land.
- Areas close to forestry.
- Separation Point Granite areas need to be retired from forestry.
- Tasman has large areas in plantation forest, this land harbours many pests, pigs, opossums, rats and stoats. As neighbours we are forever being invaded from these forests, it would be good to see a requirement to have some sort of control. The huge mono culture is also a problem with forestry in Tasman. Pollen is a major at this time of year.
- All forestry areas, especially on separation point granites, need monitoring & compliance
- Catchment-level management of primary industries (e.g. dairy, forestry) to reduce sediment deposition in estuarine environments is also critical.
- Increasing amount of land being converted to mono-culture pine forest. Planning rules need to be changed to limit this blight on the landscape (and also the lack of habitat for wildlife that exists within them)
- Soil erosion from forestry on Separation granite soils, and land development in general e.g. Moutere Hill's subdivision. Legislative tools exist and scientific knowledge is available but there a lack of effective application, commitment and will by the local authority to properly monitor and apply RC rules
- Wild fires have been getting fiercer and more common. In 2019, A single fire burnt over 2000 Ha in Tasman. We could plan to re-plant this area with less flammable species. The same applies to areas where radiata pine plantations are harvested.

### 5.3.3 Horticulture and agriculture

- The reference to regenerative soil farming (page 4) must be used cautiously, if at all. There is a lack of comprehensive scientific findings, especially regarding its suitability in New Zealand agriculture. The use of subjective, non-quantifiable markers promoting its results such as “astounding” and “happier animals” are inappropriate. Also, the mention of synthetic fertilisers and how its use should be stopped, should not be within the remit of this strategy and ties into the agenda of groups such as Greenpeace.
- Pastoral farming perspectives:
  1. Funds to deal to issues:
    - (a) Pastoral farmers acknowledge that production weeds and ecological weeds are not necessarily the same. The work of Project DeVine has illustrated farmers have no problem with permitting access by arrangement to enable ecological weeds to be removed from their property.
    - (b) Pest traps are expensive but checking and maintaining them is not. Could the strategy support funding of expenses of setting up that create ongoing success?
  2. Knowledge: Best bang for buck:
    - (a) What is most effective order to tackle biodiversity issues on my property?
    - (b) If pest traps are provided/invested in, landowners need to receive advice on placement (and perhaps rotation) onsite to ensure most effective use.
  3. Expectations versus reality:

- Community expectations on private land is a tension the strategy needs to clarify how respect for landowners/managers will be shown. Respect is essential to support trust between everyone.
- The draft strategy needs to explain more clearly its approach for supporting privately owned productive property. Farming is fundamentally different to public conservation land. Farms are pastoral agro-ecosystems.

These article links explain how important this is:

- <https://predatorfreenz.org/economic-value-ecosystem-services/>
- <https://predatorfreenz.org/pastoral-farming-biodiversity/>

The NHT work has been successful to a point. It has been adopted but reports indicate over time special areas identified could be cared for better and some are going backwards. Perhaps the Biostrategy may better support this programme's effectiveness. We suggest that the Biostrategy could underpin the approach and support review of what incentives NHT offers to landowners.

What alignment is there, or could there be, between the Biostrategy and the Predator Free NZ 2050 vision?

- <https://predatorfreenz.org/big-picture/>
- Orchard management fills a lot of land space in the Tasman region as well and should also be looking to have some form of environmental plan for the management of pest weeds and pest animals.
- Use of toxins in industrial food production such as orchards, market gardens and some livestock farms.
- Industrial scale agriculture.
- Poor Livestock management around waterways
- Farming causes detrimental impact to our biodiversity in multiple ways. Effluent waste carried away in streams can poison animal's drinking water and can end up in the sea. Cows release methane which can contribute to climate change and land taken from native bush to plant crops reduces habitat for animals.
- We need to eat less meat and dairy so we need less cows and instead focus our farming space on alternative forms of protein such as legumes (beans and peas) and on vegetable and fruit - although we will need to switch to organic ways of growing crops as pesticides and herbicides can also kill off many other natives.
- Monitoring the waterways around farms to check for any problems before it can flow on and cause problems further along the waterway.
- Farming practices which elevate the importance of pasture at all costs and do not recognise the contribution of pockets of protected biodiversity in vegetation and wetlands, to their farm.
- Hi there, finally got time to have a read of the bio strategy – great to see the mention of regenerative agriculture in the strategy – in my view it has the potential to be a “game changer” for water quality/stream flows and thus health abundance of native fisheries within small agricultural lowland streams.
- Page 4 using Regenerative soil farming as a positive example going forward and not using fertilizer. I agree with the need to review intensive stocking levels and how they are achieved but that box just lowers the tone of the document. Our natural fertility in Tasman is very low and we need to fertilize to bring a balance.

#### 5.3.4 Development

- Development.
- Housing development and its effect on water resources and remnant natural habitats.
- Housing developments spreading out from Richmond and Mapua.
- Over-development - loss of habitat - regeneration of public lands - effective regulations - monitoring - compliance measures
- Development continues, even today, in the coastal and estuarine habitats e.g. Lower Queen Street, Richmond where there has been hardening of a large area of land, by the use of concrete and buildings, on an area which once would have formed the flood zone of the Waimeha Inlet with extensive habitats for thousands of bird life and a nursery for fish species.
- Land clearance
- Make restrictions around what portions of land can be farmland so people have to have a certain amount of native forest to balance out farming.
- Do not over farm the land and wear it out beyond use- cycle crops and rotate between farmland and plantation of native flora to keep the land healthy.
- Over consumption of natural resources
- The want to expand our society economically in ways that do not consider our environment. It is normal for us to want to expand our society through ways to create more income. However, we often do not consider our natural environment and the impact on our native species. With our ever-growing population we will need to extend our housing areas and expand our farming zones as we will inevitably need to grow more food and house more people. If we continue on the path we are taking currently we will not be able to retain our biodiversity while sustaining our population. We need to change our consumerist society as the knickknacks bought today can reduce a species tomorrow through littering and plastic disintegration. We need to change our eating habits so we do not need to have as many cows to produce dairy and meat - alternative proteins will be an important part of this. We need to radically reduce use of chemicals, so we do not harm our native
- Human activities whether logging, urban expansion, discharges into waterways and to the sea, aquaculture, farming practices

#### 5.3.5 Habitat

- Habitat loss.
- Public overuse of some areas.
- Pollution.
- Disturbance by humans - vehicles on coast and rivers.

- Supporting the Dark Skies initiative to reduce light pollution which impacts negatively on nocturnal species.

not occur where wildlife wellbeing would be affected.  
 Boldly police this.

- Protect the dark sky. Many areas of Tasman district have dark sky park conditions without even trying. Let's keep them like this. Tourists already come especially to see them. Public area lighting can be reduced greatly from what is often in place. Council can use much more benign lowlight modern lamps. Wildlife is harmed by artificial light.

### 5.3.6 Population growth

- Population Growth
- Population growth. We need to acknowledge this is the biggest threat to our Region and our Planet.
- We need to remove the outdated thinking that growth is good.
- Urban growth - while not so important in terms of land area covered, it is very destructive on biodiversity of land and waterways. Urban development is too greedy for land - need to build more densely. The amount of land provided for streams is way too little and urban runoff is not effectively managed - the Land Development Manual is not delivering on its vision.
- Population Growth,
- Pollution

### 5.3.7 Visitors

- Almost all degradation of our natural wild places has been and continues to be at the hand of humans. Tourism needs to be carefully managed to reduce the pressure particularly on sensitive areas. Vehicle-based 'freedom camping' especially by overseas tourists with little knowledge or understanding of the requirements of our native species has to be minimized by restricting unfettered access and camping use of the more vulnerable areas. Although we really do need a consistent nationwide policy framework for managing this pressure, we cannot wait for central government action. We must move to protect what we have here now and place limits on such activities. The ideal would be to restrict overnighing to areas with a basic minimum of toilet and rubbish containment facilities.

## 5.4 MARINE ISSUES

### 5.4.1 General

- Protect our native marine species as we do our native land species.
- Golden Bay marine area is still suffering from the effects of trawling exacerbated by sediment.
- Prevention of disturbance to (for instance) bird species (including penguins) that use coastal and estuarine areas to rest, breed/nest, and feed; and ensuring that the habitats, both on

land and in the marine environment, are not used for disposal of waste e.g. from sewage, dredged material from ports, stormwater and aquaculture activities (e.g. salmon farming).

#### 5.4.2 Seabed and sediment

- Seabed disturbance and resuspension of sediment.
- Council has allowed continuing degradation of the region resulting in massive amounts of silt ending up around the coast and in the Bay ruining the marine and benthic habitats which once supported fish and bird life.
- Stable seabed and all associated organisms.

#### 5.4.3 Vessels

- Commercial and private water transports.

#### 5.4.4 Fisheries

- Fisheries and fishing practices
- Fisheries pillage.
- Overuse of environment by people e.g. fishing.
- The short term perspective taken by fisheries. Lack of understanding of the damage of destructive fishing practices
- Limitations on what/where people can interfere with our landscape and wildlife- fishing, trawling

#### 5.4.5 Noise

- Marine ecology health needs to be monitored including the effects on noise on marine mammals and specific bird species such as penguins.

#### 5.4.6 Aquaculture

- Mussel farming in Golden Bay is set to expand sevenfold, with permits granted for 3000 hectares of aquaculture in the sheltered, shallow bay. We consider it vital that social and environmental impacts be documented and mitigated, preferably before this massive industry expansion. We see these negative effects to be, in summary:
  - noise and light pollution;
  - plastics pollution (including microplastics in the ocean);
  - pressure on infrastructure (roads and Port Tarakohe)
  - noise, obstruction and other potential negative impacts on marine animals such as orca, dolphins, seals, penguins and fish
  - known and unknown effects on the overall ecology of the Bay.
  - Carbon emission from 17 fossil-fuelled vessels

### 5.5 FRESHWATER ISSUES

- Drainage of wetlands.
- Fencing off of some areas to stock, i.e. public/private land boundaries, rivers etc.
- The amount of waste going into waterways and destroying habitat
- Waterways dirtied by farm sediment from cattle and other domesticated farm animals and rubbish strewn across our area
- The degradation of small urban streams.
- Sediment from land use practices in water ways and estuaries..

- Freshwater - protection of Waikoropupu Springs together with its aquifer and stygofauna. Limiting overgrazing and runoff from intensive farming.
- Freshwater degradation – causes; sedimentation, urban, industrial and agricultural contamination and overuse. Obstacles to fish passage

## 5.6 CHEMICALS

- I have the gravest concerns about what we do to ourselves individually and collectively when we habituate each other and our children to widespread poisoning of introduced animals. Several of the poisons inflict slow deaths and at least one was designed to do that deliberately. Indifference to suffering is the essence of cruelty. It is received wisdom that cruelty to animals is an evil that sinks unseen into society and becomes cruelty towards people. As with much in ecology, the ways in which this attitude will feed back into our communities are unpredictable and insidious. We would do well to look for other methods of enhancing native biodiversity. Pollution from the use of residual chemicals (including some banned elsewhere) in agriculture/horticulture/viticulture.
- Lobby central government to develop biological controls to eliminate mustelids and possums so that 1080 poison is no longer required.
- To not use pesticides/herbicides/synthetic fertilizers anymore - on all the land. For Council to be the first to stop these practices - e.g. roadside spraying.
- Chemicals & sewage in our water & waste management
- Working on waste management, the way we deal with sewage and chemicals
- Stop 1080
- Overcoming opposition to aerial 1080
- Nullify the anti-poison lobby. - Impossible to change their minds.
- People who are opposed to some Bio Strategies and try to prevent things like 1080 or those who do things like slash the brook sanctuary fence. These people make it very difficult to progress.
- Interest groups that oppose aspects of the strategy: A case in point, the anti-1080 lobby began by claiming that ground trapping could obviate the need to use of poisons in possum control. When challenged on the reality of trapping the enormous and inaccessible areas involved, their position began to shift towards denying the need for predator control at all and to accepting the new status quo "biodiversity". Given that the movement grew out of the concerns of hunters whose recreational interests were threatened by 1080 the shift should be of no surprise. Recreational hunting, whether for deer or pigs, has become associated with commercial interests that profit from it in various ways, and so the strength and funding of, and lobbying by the combined interests should not be underestimated. I believe the Biostrategy will need to resolve potentially opposing values and views by trying to accommodate them. Hence the inclusion in my vision statement of areas dedicated to recreational hunting while at the same time trying to find effective ways to involve hunters in wild animal removal from sensitive areas where the animals' impacts need to be severely reduced. At the same time practices like deliberately releasing harmful recreational (or other) species into protected public lands need to become serious criminal offenses with restorative penalties. Lobbying central government to achieve the necessary legislation should be seen as part of the strategy.
- Controls on herbicide use, especially large scale use on grazing paddocks, leading to its phasing out. Herbicides kill soil microorganisms and cause the soil to emit CO<sub>2</sub> rather than accumulate organic material. Controls to reduce the loss of topsoil from land. These should

include restrictions on cultivating paddocks, and on animal stock densities. A recent paper by Cawthron Institute has established that a leading cause of bio-diversity loss in the shallow waters of Tasman Bay and Golden Bay is smothering by silt originating as topsoil loss and then flowing via rivers into the sea. Combined education and controls to replace urea use with the fixing of atmospheric nitrogen by leguminous plants. Urea use in NZ directly causes 4 million tonnes per annum of greenhouse gas emission measured as CO<sub>2</sub> equivalent, which is 5% of our total.<sup>5</sup> Until the 1980s we used clover for essentially all our agricultural nitrogen fixing, so it's a well tried method and can be used again.

## 5.7 CULTURE

### 5.7.1 Trust

- Lack of trust in leaders and decision makers.
- Overcoming lack of trust in council. - if the public have trusting relationships with council, there will be more buy-in from the public to adopt best practise measures.

### 5.7.2 Anthropocentrism

- Individual (human) agendas diluting efforts
- He tangata, he tangata, he tangata (it is people, it is people, it is people)
- There's been a traditional sense of domination of nature although it's starting to change with the likes of 'regenerative' farming. A bad example would be the extensive earth moving, compacting, levelling, tree-felling clean slate target for the corporate hop farms before they erect all their arsenic treated posts & wires for a monoculture crop in what is potentially a flood plain.

### 5.7.3 Economic

- The cuddling up to big business who uses the 'employment' card to justify unsustainable practices.
- TDC is conflicted in trying to control exotic forestry harvesting and land disturbance by virtue of being a forest owner and shareholder in Port Nelson
- We can change the philosophy that growth is necessary. Sustainability is more important. TDC thinks it can have both, but I believe needs to put sustainability first and maybe growth second. TDC needs to listen to its communities. They live and love their areas and if given the opportunity they can be instrumental in protection.
- A change from business first to environment first reflected in the councillors' decisions and then passed on clearly to staff at TDC. If we really look after our environment we 'll actually look after people living here in the long term better.
- Remove the pervasive and sickening 'growth at all costs' mentality that all levels of Council share.
- Not getting the priorities right. Trying to please big business at the expense of biodiversity happens time and time again: fishing quotas are set too high, agriculturalists are allow to apply levels of artificial nitrates that are known to be affecting waterways and farmers are allowed excessive water allocations that threaten river life. In dry summers, to name a few examples. The unnecessary dam at Lee valley is a total waste of our resources as the aquifer gravels from which Richmond draws its water have more than enough supply.
- Big Business who have all the money and can control things because of the power they have.

#### 5.7.4 Administration

- We firmly believe that Tasman District Council has to take a big step forward and actually own a strong restorative and protective vision for our natural environment, and to embed it into plans, policies, strategies, and funding.
- The overly complicated bureaucracy and fear culture associated with making decisions on Crown land.
- More compliance
- Failure to recognise the fundamental importance of biodiversity and allocate adequate resources.
- On private land, the lack of a consistent and high-level buy-in to biodiversity protection by all TDC departments. What we can do: Contribute to consultation and submission opportunities, including being heard always with a solution-based approach. Presenting solution-based presentations at Council and Community Board meetings.
- Ask that biodiversity protection and restoration becomes an overriding priority for Council Reserves management.
- Compliance processes at TDC are needing to be more targeted to protecting biodiversity e.g. effect on streams of winter grazing runoff. We need to ask for this to be included in financial planning.
- Staffing. Compliance and good scientific research must underpin biodiversity policies. TDC is not nearly active enough in its regional council responsibilities.
- Lack of cohesion between those who “holds” the information (and the funding) – the “gatekeepers” in general bureaucracy, and those willing to undertake action (usually volunteers acting on credible valid advice).
- At all times decision-makers undertaking activities in Tasman District must confirm to the requirements spelt out in the Integrated Priorities “road map”. Too much “effort” including funding, is expended on pet projects that have no scientific basis in halting the decline in our indigenous biodiversity. A precautionary approach to all activities must be taken at all times.

#### 5.7.5 Eurocentric

- European settlers to both Australia and NZ brought all their European attitudes, pets and garden plants to the southern environment, and native plant and animal life was devastated and after 200 years many have still not made the jump to South Pacific thinking.
- Those who have made the jump work as volunteers to try and repair the damage. The rest, which includes most Councils, are still disconnected from our endemic species. Councils are still Eurocentric in their thinking and unable to give native species the recognition which is needed for them to flourish.
- Most environmental volunteers understand that native species are totally unlike those of other continents and need different treatment. Volunteers also understand that the world operates with holism.

#### 5.7.6 Leadership and governance

- Lack of strong committed leadership and integrated policy.
- Ineffective governance at TDC by councillors who lack knowledge of and commitment to achieving optimal biodiversity outcomes. Very poor understanding of integrated catchment management principles. Only lip service paid to Water Conservation Orders (Motueka and Buller Rivers) and irrigation management.
- Greater integrity when TDC reports to the public on freshwater issues. Water quality stories are misleading and creating false public confidence in how well our rivers and streams are

being managed - water quality in itself does not give a true reflection of the quality of the freshwater habitat which may be severely degraded by siltation.

- Public Opinion. People seem to see TDC as a threat.
- It will take a monumental change of heart and policy by the council to support meaningfully the environmental progress achieved by volunteers.
- First of all a lack of will of Council to act and a refusal to provide the additional staff necessary to get the job done and also a tendency to tick boxes rather than to have a fire to succeed in eliminating the problems. Being half hearted won't do it.
- Not supporting the few god keen staff that are employed because their expertise is not respect by the office "wallahs" whose main job in comparison is time stalling paper shuffling. Let's have less of these and more people who can get the result without delays that are costly in both monetary terms and to our environment.

#### 5.7.7 Technocratic

- TDC river engineers who are still of the stop bank, channelisation, confinement & rock walling of riverbanks

#### 5.7.8 Kaitiakitanga

- The land size is huge and making small gains will give hope to people. Getting people to care about their natural areas is huge - we need to get youth, young adults and families more engaged in conservation/improving biodiversity.
- Recalcitrant landowners who need to be tactfully encouraged
- Biodiversity needs space and time, not management in the sense meant here.
- We could work to change what is considered acceptable land use.
- Generate a sense of interconnectedness with environment through the schools (SCHMAK tests etc). Get more people looking through microscopes.

#### 5.7.9 Purpose

- Taking a tenure neutral approach to involve multiple organisations and landowners, there needs to be coherent purpose.

#### 5.7.10 Generational

- Youth involvement in planning for the future.

#### 5.7.11 Collaboration

- When communication is poor there is a risk of misdirected efforts, disillusionment and a failure to achieve the full potential. It is likely that such partnerships will most often involve projects to remove weeds, plant native vegetation or remove predators and browsers. There needs to be an agreement between the partners - in that the community group is working towards specific goals identified in the strategy and that the Council, in recognition of this, can offer advice and support. The extent of this offer can help to tweak projects so that they better align with the strategy.

#### 5.7.12 Volunteerism

- Paying those that do the work rather than it getting done by volunteers

### 5.8 EXPERTISE AND KNOWLEDGE

- DOC being thrust into an area (money allocation) they are not experienced in

- An additional position for a biodiversity advocate who can work with farmers, fishermen, loggers and other extractive and intensive industries to protect native biodiversity.
- assistance landowners with advice, traps, weed control on their land to curb the spread of pests and weeds.
- Lack of high quality, accessible baseline data.
- Lack of knowledge and tools for effectively addressing many of the threats facing our biodiversity.
- A barrier to overcome is the amount of awareness in the Tasman region, because of the Abel Tasman national park the Tasman region is accepted as bio diverse area but the rest of the a Tasman region is forgotten and assumed as biodiverse as well. Relating to awareness another barrier is allowing people to care for the Environment if none has any interest in a biodiverse region then it will never be achieved. Last barrier is creating a balance for the economy growth and the natural environment.
- People not knowing what is going on, there are lots of people that don't know how to get involved.
- Some of the best experts in pest control and native species monitoring are located in the Nelson/Tasman region. We know how to do this. All that is required is the political will and funding to do it.
- One of the biggest threats is not knowing what species are present and which species have been lost.
- What is our inventory / database? What have got now for better or for worse. Use this baseline data to measure trends and maybe provide an annual score so we can see trends
- More incentives to train and attract clever people into practical conservation as a long-term career instead of short term, low paid, insecure contracts

## 5.9 ECONOMY

- Diminish our reliance on importing goods of any kind from outside our bioregion.
- securing funding for biodiversity work
- Funding for biodiversity protection is needed but is not enough unless there are people available with the experience to design, prioritise and implement appropriate management practises.
- Economic development overriding biodiversity protection.
- DOCs small budget for managing stewardship land. - Lobby central government for funding increases.

## 5.10 RULES

### 5.10.1 Enforcement

- While council rules are good, they need to be enforced and monitored. Any abatement notices need to be followed up on.
- Current rules for the protection of biodiversity should be enforced and even tighter rules developed
- The lack of enforcement of water standards for farming, industry and towns

### 5.10.2 Regulation

- Need better planning and regulation that actually protects habitat and our biodiversity (e.g. from subdivision, development, rural environments, and mountain bike tracks poorly sited)

- Landowners should be obliged to plant along the coast to trap silt, fertilizer, animal manures etc as per fresh waterways.
- Review water rights, as with the current, and future, droughts, rivers are very low which significantly reduces the volume of freshwater entering the ocean
- A charge on all new building development within expected 10m rise, to be kept in a separate fund so that buildings can be demolished / removed and not just left to break up in the marine environment.
- The lack of thoughtful direction regarding coastal or low-lying areas. Recently permission for digger work on the coast didn't take into account penguin breeding times. Conflict could have been avoided with clear direction within TDC consents. Also building new subdivisions near Richmond in areas very likely to be affected by sea level rise.....
- Catchment-level management of primary industries (e.g. dairy, forestry) to reduce sediment deposition in estuarine environments is also critical.
- Revise regulations in line with climate change considerations;
- Build in disincentives for inappropriate development in light of sea-level rise, similar to the EQC levy;
- Ensure all new development (including infrastructure such as roads) enhances biodiversity outcomes, e.g. by allowing space for new habitat with sea level rise.
- Land use regulations that mandate minimum proportions of indigenous species, and appropriate time frame to maximise sequestration by indigenous species and by soils;
- Offset schemes that value biodiversity and reduce carbon.
- a charge on all new building development within expected 10m (15 - 20 - 30???) rise, to be kept in a separate fund so that buildings can be demolished / removed and not just left to break up in the marine environment.
- Be stricter about planning regulations and make developers do more to preserve natural areas.
- Lack of effective regulatory & monitoring oversight. Some of the regulatory tools available now aren't being properly applied or are unevenly applied. And some don't exist For example there is no protection for native tree land remnants (totara) on flood plains as these don't meet 'forest' status
- Much greater consideration of development proposals impacts on biodiversity at the planning stage

### 5.10.3 Protected areas

- More marine reserves
- The lack development of more marine reserves
- Establishing more marine reserves to protect marine diversity.
- Marine and tidal ecosystems will benefit from creation/expansion of marine reserves. This could be combined with efforts to maximise the carbon sequestration and storage capacity of suitable tidal and sub-tidal areas.
- Consideration should be given to more marine protected areas in Golden and Tasman Bays and on the West Coast. These are inadequate to protect and give resilience to marine biodiversity.

## 6 BUILDING BLOCKS

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### ANALYSIS

While a wide range of existing initiatives, processes, groups and structures were identified on which the strategy could build, one group took exception to the idea of “**scaling up**”.

Building **engagement and understanding** was seen by many as essential. This included: fostering collaboration, providing education, disseminating better practices and incentives.

Many existing **programmes** were cited as potential building blocks including:

- Kotahitanga mō te Taiao initiatives
- Department of Conservation programmes
- Golden Bay weed control – Project De-Vine
- A broad range of planting programmes including those under Jobs for Nature
- QEII covenants
- Native Habitats Tasman
- Nelson Tasman Climate Forum and Strategy
- Cycle ways
- A wide range of local initiatives
- Maori land programmes
- Philanthropic programmes
- Private enterprise initiatives
- Rivers /freshwater
- Marine
- Sanctuaries
- Council programmes

A wide range of **methods** were proposed to support biodiversity and biosecurity action. These included:

- Research and monitoring
- Funding
- Cultural
- Wildlife corridors
- Protected areas
- New technologies
- Riparian protection
- Land acquisition
- Soft tech
- Integrated planning
- Enabling landowners
- Education
- Resource Management Act tools

## 6.1 GENERAL

- Successful Biodiversity projects that could be scaled up. Here too the discussion document and the question miss the mark. This suggests 'quick fix,' 'box-tick' solutions. What matters here is not projects, but values and the 'impact' monitoring of practices -those of TDC itself, and of residents, businesses and landholders. These are matters that cannot be 'scaled up'. What TDC needs is to acknowledge its own role, as source of over-arching pro-biodiversity values statements, around which community, industry, and small businesses cluster their assessments of the downstream impact of their activities, and so can plan their mitigation. TDC should not see itself as the Biodiversity Lotteries Commission, handing out project goodies to this year's winners from the large basket of similar local projects-and disappointing all the others. Instead, it needs to have biodiversity written in to all its policies and monitoring/regulatory practices -so that all Tasman activities centre, as a priority, on biodiversity protection and enhancement. That alone is enough to handle-especially in the coming decades of climate change, coastal inundation, water shortages, and a governance system close to the limits of its taxation/rating take. Only if/when biodiversity becomes recognised as a 'common good' -a first principle of kaitiakitanga for all subsequent activities, as is the practice within Te Ao Maori, will change begin. And that change is urgent.

## 6.2 ENGAGEMENT

### 6.2.1 Collaboration

- Getting the community to help the state of the forests and places that we want to protect, and get more businesses that are helping these sorts of things to stand up and get their voice heard to the people that don't really care about helping the economy, and native wildlife. Raise awareness more than it already is about the endangered species that we may lose and how that will affect us and the world. Taking action now. Taking inspiration from David Attenborough's film, and his ideas. Dedicating ourselves to finding better solutions to begin the process of making a better New Zealand for future generations. Begin planting natives and protecting threatened species through various means now, before it is too late. Begin doing small things to help sustain our country - using renewable resources in our everyday lives, becoming just a little more eco-friendly as a start. Act now, before we lose anything else.
- Facilitating engagement between productive and conservation sectors to identify win-win options
- Need to improve liaison with private landowners.
- You should be more active in involving the community in projects, when the community has been actively involved we can see obvious results. It also help to raise appreciation about the environment to the wider community. This starts a chain reaction, like a snowball rolling down a hill. By including the community, we need less effort to maintain the environment.

### 6.2.2 Education

- Providing clear, accessible information linking global context to local environment and challenges (including for local schools)
- Developing opportunities to link schools with community actions on the ground.
- Educate residents more e.g. with signs on beaches or near walkways about weeds, penguins and other birds which are at risk from humans and dogs.

- A way of getting huge involvement from youth, young adults and families. Education about why the places in the strategy are important and worth protecting.
- Educating communities on the projects going on and on how their actions are effecting the Tasman region (schools or general public)

### 6.2.3 Better practice

- Promote model examples
- Ensure all new development (including infrastructure such as roads) enhances biodiversity outcomes, e.g. by allowing space for new habitat with sea level rise.
- Seek insurance industry support for campaigns on risks of investments (and for restoration projects themselves?);
- Provide case studies to Councils, developers, industry, public to prove the multiple benefits (financial and non-financial) of undertaking actions such as restoring wetlands to mitigate flood damage; role of estuaries in storm surge protection; mental health benefits of accessible indigenous forest areas etc.

### 6.2.4 Incentives

- Develop value-add opportunities for producers conserving biodiversity and addressing climate change to market their products as such, e.g. “Biodiversity for Wine”;
- Encourage and incentivise longer term planning horizons that take climate change into account at landscape and farm levels.
- Make it easier for all private landowners to access cheap predator control, including urban areas.

## 6.3 PROGRAMMES

### 6.3.1 Kotahitanga mō te Taiao

- Part 3: Priorities (page 7) states “We want to use the Tasman BioStrategy process to test and refine its recommendations” yet statements from the Kotahitanga mō te Taiao Strategy have been redacted in a way that does not disclose the full level of prescription already existing in the agreed document. Some have been completely omitted, this “cherry picking” is indicative of a preconceived ranking order. For each of the six areas readers are not fully informed in the discussion document as to the Kotahitanga mō te Taiao Strategy statements of “what we want to achieve”, “this is what success looks like” and “how to get there”. To assess these as priorities, the fully detailed level of prescription in the Kotahitanga mō te Taiao Strategy needs to be considered. The summaries of each area, currently written as “what this means” has been concluded by who? For example, with Nelson Motueka the “what this means” is giving priority to integrating future development with protecting, connecting and restoring ecosystems remnants. Who has determined this is the outcome for Nelson Motueka? It is written as an absolute and it must be remembered that this Biostrategy document is non-statutory. Only TDC through statutory plans can deliver that outcome. Including statements like the example above will raise false expectations of what this Biostrategy can achieve and does not align with its purpose.

#### *Northwest Nelson*

1. *Fully functioning indigenous ecosystems restored.*
2. *Threatened flora populations are secured.*

3. *Rare and uncommon ecosystems are restored and secured.*
  4. *Fragmented lowland ecosystems of Golden Bay and Buller District are secured and restored.*
  5. *Nationally important ecosystems are restored to full natural function.*
- These would mean focussing on areas with high numbers of special species, reducing introduced pest pressures across the area, and reconnecting the remaining natural areas through the lowlands of Golden Bay.*

Comment: Wording is important:

- point 1. if the ecosystem is “fully functioning” then surely it does not need to be “restored”? Perhaps “restored” should be replaced by “maintained”? OR should it read “Restoration of fully functioning indigenous ecosystems”? If it is the latter then surely point 5. is redundant?
- points 2, 3 and 4 (and elsewhere in this Part of the consultation document) make use of the word “secured” - what does this word mean? Tied up in chains? Or “protected from (what?)”?
- point 2. refers to “flora” populations – ADD “and fauna”. Many threatened species including snails, kiwi, takahe are in this area
- points 3 & 4. is there something meant by the difference in the wording of “restored and secured” and “secured and restored”? (but please don’t use the word “secured”!)

#### *West Coast Marine*

1. *The wilderness of the sea is protected commensurate with that on land.*
  2. *The impact of land use effects on estuaries is minimised.*
- These would mean developing a wilderness protection plan for the Northwest coast and focusing attention on the health of the Whanganui Inlet.*

Comment: I am unsure whether this extends to the 12 nautical mile limit and if any of the adjacent land is included (e.g. Kaihoka Lakes, and other coastal lakes), Wharariki, Farewell Spit. I note that the comment below the list refers to Whanganui Inlet as a focus.

- point 1: “commensurate” - really? - so it is OK to farm the sea just as the land is farmed? In relation to the sea coast and marine areas the word “wilderness’ really has no meaning. Change sentence to “The wild and natural aspects of the sea coast are protected”.
- Point 2 – minimisation means not a thing: change “minimised” to “avoided”.

#### *Nelson Motueka*

1. *Remaining alluvial podocarp forests and coastal and freshwater wetlands have been protected and restoration of these last remaining fragments has begun. Riparian margins have been restored with native vegetation creating ecosystem corridors.*
  2. *Populations of native species are secure and self-sustainable.*
  3. *Indigenous migratory fish able to flourish and migrate freely.*
  4. *A production landscape and economy that is thriving whilst protecting natural heritage.*
- These would mean giving priority to integrating future development with protecting, connecting, and restoring native ecosystem remnants.*

Comment:

- point 2. change “secure” to “protected” (see above) and “self-sustainable” to “self-sustaining”. There is an issue here however that their “sustainability” is totally dependent on the nature of the environment NOT on the populations themselves....
- point 4. add “and enhancing” after “protecting” and change “natural heritage” to “indigenous biodiversity”.

#### *Nelson Bays*

1. *The restoration of shellfish beds to a level where harvesting can be sustained.*
2. *Sediment inputs from rivers and streams are at levels that enable benthic ecosystems to thrive.*
3. *Estuarine ecologies are restored, and managed, and coastal retreat is provided for as sea levels rise.*
4. *Roosting sites for shorebirds are secured.*
5. *Communities and industries change land-use and sea-based activities to approaches that allow them to flourish while using ecologically sustainable practices.*

*These would mean developing integrated management of land and water that allowed restoration of seabed ecologies and protection of key aspects of estuaries.*

#### Comment:

- point 1. is the “sustainability” of the resource take i.e. the harvesting of shellfish the important issue here or is it that the marine environment is a “fully functioning ecosystem”? Change the wording to: “Monitoring of the health of the marine environment by assessing the condition of shellfish beds. Harvesting should only be undertaken where there are healthy beds that are self-sustaining”.
- point 3. Change wording to; “Estuarine and river mouth ecologies are restored and managed with the effects of climate change – including sea level rise, coastal squeeze, extreme weather events – managed and mitigated by the removal of redundant structures including seawalls, dune restoration, and that coastal retreat is provided for.
- point 4. Change to: “Sites important to shore birds are protected with coastal activities and predators controlled”.
- point 5. ADD after “... approaches that” the words “are in appropriate places, forms and limits to enable” and delete “allow”.
- ADD point 6. “Establish new and extend existing marine protected areas with an emphasis on “no-take” marine reserves”.

#### *Nelson Lakes*

1. *The Rotoiti Nature Recovery Project is a nationally recognised centre of excellence in development of forest and alpine ecosystem restoration tools.*
2. *Functional and sustained frost flat and valley floor wetland communities.*
3. *Small streams, riparian margins and alluvial forests are protected from impacts of land use activity.*
4. *Protection of braided river birds and habitat.*
5. *Restore this area as a long-tailed bat hot-spot of endemism.*
6. *To support the local economy by attracting high value visitors to the area.*

*These would mean integrating management by the Department of Conservation on public lands with action on the lowland areas that are predominantly in private ownership.*

Comment:

- point 2. Again use of the word “sustained” is meaningless – do you mean “self-sustaining”?
- ADD point 7. “Reduction of predators and plant pests is undertaken within the wider Nelson Lakes area”.
- ADD point 8. “All wetland areas are to be protected and restored”.

*Mt Richmond*

1. *Change perception of Mt Richmond from a largely unknown area to a treasure at Nelson and Marlborough’s back door.*
2. *re: point 6: Who will be responsible for achieving this “priority” and how does Nelson Lakes differ from the other national parks in the region?*
3. *Mt Richmond Forest Park and contiguous natural areas are restored and enhanced to a self-sustaining level.*
4. *The Red Hills/Dun Mountain mineral belt geology, ecosystems and species are protected from threats.*
5. *The formal identification and protection of key land areas that are important to biodiversity.*

*These would mean building on some of the conservation initiatives in the Red Hills and Mt Richmond Forest such as wilding conifer control and small-scale predator control and forest restoration.*

Comment:

- point 4: ADD “including mineral exploitation” after “threats”

### 6.3.2 Department of Conservation

- DOC’s Tiakina Nga manu programme is the only really large-scale project in the region..
- The great white butterfly eradication programme is a good example of the value of targeting significant resources to solve a defined issue.
- The Rotoiti Nature Recovery Project, Friends of Flora, assistance with the Brook Sanctuary to act like a halo for the Nelson side of the Richmond Ranges. Most projects seem to focus on protecting birds, unfortunately, whilst biodiversity includes all living things.
- The land - 65-70% is in state parks, forests or DOC. it's a big chunk of the region.

### 6.3.3 Golden Bay weed control

- The fight against invasive weeds over in Golden Bay
- Project DeVine. Friends of Flora and Cobb. Mangarakau. Brook Waimarama (particularly the education that has gone with this project). Waimea Inlet Forum. Dominion Flats restoration.
- Mohua - we have a chance to make this area a big predator and plant pest free area - bounded by 2 National parks and ocean
- The de-weeding and revegetation of the Pohara sand spit.

#### 6.3.4 Planting programmes

- Motueka River replanting on riverbanks
- Estuarine plantings to improve habitat for fern birds, banded rail and bitterns.
- Riparian fencing and planting.
- More tree planting in pockets throughout the Waimea Plains to create a corridor from mountains to seashore to improve bird biodiversity.
- riparian planting - shade rivers, protect from runoff, bank stabilisation
- As primary producers, plants are the foundation of all ecosystems. Our native forests are now fragments of what was a widespread mantle of lush rain forest. We need to cease destruction of any further native forests, whether privately owned or under public ownership. We also need to be planting less productive cleared land and steeper hillsides with native colonizing species to start the succession to mature indigenous forests. These will aid in halting or reducing erosion as well as providing carbon sinks. They should be treated and managed as protection forests and not regarded as production forests. A greater percentage of these must be in indigenous species not intended for harvesting but specifically to protect the land. Encouragement by way of modest financial support and better pathways for covenanting such planted areas to secure their long-term future is needed.

#### 6.3.5 QEII

- Promotion of the opportunities for landowners to establish covenants to protect ecosystems on private land through the Queen Elizabeth II Trust.

#### 6.3.6 Native Habitats Tasman

- Native Habitats Tasman could provide more support for private landowners

#### 6.3.7 Climate Forum

- Nelson Tasman Climate Forum

#### 6.3.8 Cycle ways

- Cycle ways. Great they are going so well in Tasman and could there be more in Golden Bay and probably Tasman too.

#### 6.3.9 Local initiatives

- Tasman Environmental Trust
- Support of small local environmental initiatives e.g. Onekaka biodiversity group, work by health post at whareariki, Weedbusters.
- AT Birdsong Trust
- Local trapping initiatives throughout the area e.g. around the Motueka estuary, Split Apple Rock area, Otuwhero Inlet, Marahau Halo, Tasman Bay Guardians.
- Pest and weed control always.
- Predator control could be extended into new areas at the same time maintaining the existing programmes.
- Planting of native trees, involving communities
- Predator control could be extended into new areas at the same time maintaining the existing programmes.
- The trapping programmes of Friends of Flora and Friends of Cobb.
- There are specific projects that come to mind (e.g., Waimea Inlet Forum; the Richmond Hills work; Coast Care projects; Abel Janzoon Trust; Friends of Flora; Rotoiti Recovery project etc).

The problem will always be however how any co-ordination/collaborations is managed – and of course the natural turnover of volunteers willing to do the work for nothing when they can see people who are paid seemingly “in control”.

- Projects that are working collaboratively on landscape scale work, e.g. Friends of Flora, Project Janssoon partners, etc.
- Wharariki-Onetahua Restoration Project (especially building on the work of Health Post Trust)
- Forest & Bird (with a broad based membership base) could be supported to assist with urban restoration from Nelson – Richmond
- money should be invested to any volunteer groups who are willing to volunteer their time
- Project Janssoon could expand to neighbouring park areas/schools (Otuwhero)
- whenua Iti environmental science courses, getting more secondary school students involved in these pathways
- Removal of constraints to community groups participating in conservation projects on public land e.g. Thorpe’s Bush is managed as an amenity asset rather than a biodiversity taonga

#### 6.3.10 Maori land

- Restoring & protecting of Maori land, working with iwi

#### 6.3.11 Philanthropy

- The potential for philanthropic funding is significant. I have had a close involvement with three such initiatives. It has not always been easy to get government or local authority advice and support. This can be remedied by good public communication of the achievements and the needs of this strategy. This needs to be followed up by credible one on one communication.
- I would like to see Project Janssoon expanded into the areas around the Able Tasman Park down to the Takaka Valley and down to the Riwaka Valley.

#### 6.3.12 Private enterprise

- Forests - companies and private ownership - engagement with contractors especially is necessary to do better with small pockets of indigenous cover and other environmental outcomes. The contractors do the most damage.
- Some commercial enterprises now take a pride in backing our environment e.g., Healthpost limited which dedicated a proportion of profits to tree planting and now to a land reserve. This is a great attitude, but this attitude needs to become the new normal of us all if we are to face the challenges to come.
- [www.goldendowns.co.nz](http://www.goldendowns.co.nz)

#### 6.3.13 Rivers /freshwater -

- there are 4-5 major rivers in Tasman. Pest control - we are not going to eliminate plant pests / weeds so the spend on this needs to be focused on control and carefully considered.

In supplement to Fish and Game New Zealand’s submission, the Nelson Marlborough Fish & Game Council would like to provide examples of the following recent habitat restoration, advocacy, and monitoring we have undertaken in this region to the benefit of all species, indigenous and introduced:

1. Working with landowners, Game Bird Habitat Trust, and our own funding, we have created or restored a number of wetlands across the region. Ranging in size from half a hectare up to

100 hectares (Para Wetland), these created or restored wetlands provide high quality wetland and terrestrial habitat for many freshwater species including longfin eel, bittern, and marsh crake.

2. We recently provided in-depth comprehensive technical and planning evidence for the Marlborough Environment Plan hearings, focussing on appropriate water allocation limits and minimum flow levels, along with water quality provisions and wetland protection. The large amount of committed staff time (hundreds of hours) and external legal/hydrological costs (~100k), will amongst other outcomes, set in place a robust low flow management framework for Marlborough, to the benefit of both native and introduced fisheries.
3. We are currently working with Ngati Tama, Ngati Kuia, and Te Atiawa, to try and get Tasman District Council to address inadequate low flow management within the Upper Motueka River. Given research (Hayes et. al 2018) shows the biomass of 3 native fish species in the top of this catchment are all driven by abiotic factors (floods/droughts), rather than biotic factors (trout), any improvement to low flow management within this catchment will benefit both native and introduced fish.
4. We recently procured better regional habitat outcomes for river management through an appeal of Tasman District Council's global river works consent to the Environment Court. Mediated settlement resulted in a region wide river morphology survey showing the extent of engineering driven historic pool loss within the regions rivers, and an agreement for pool recreation through river repair works moving forward. This result is already producing more pool habitat for adult brown trout and adult longfin eels within the Motupiko River.
5. We advocate effectively for better management of diffuse source runoff at both the local Council level (resource consents/plans), and nationally (NPSFWM), to address the most critical factors currently impacting both native and trout fisheries. A recent Ministry for the Environment review (Crow et. al 2016) of NZ fish species trends showed both introduced brown trout and native Northern river galaxiids to have declined significantly over the last decade in areas of land use intensification on the South Island's East Coast.
6. We have actively contributed to stream riparian management at a number of sites, the most significant being a 2km stream planting project within the upper Takaka River catchment, which saw us establish and spray release until maturity 4000 native plants on an intensive dairy farm stream.
7. We have instigated, coordinated, and successfully procured both the Buller and Motueka Water Conservation Orders. As well as nationally outstanding trout fisheries, the wild and scenic, karst, and Blue duck values were also protected in perpetuity through working closely with the Department of Conservation during these long processes (8-10 years for each WCO).
8. We are an active member of the Waimea Inlet forum and through this process run a volunteer predator trapping program across much of Rabbit Island in return for being able to run 3 organised pheasant hunts on the Island each year.
9. We are an active member of the newly formed Te Hoiere/Pelorus catchment enhancement project just starting within this region, driven by a top of the south alliance of Iwi and Councils for landscape scale conservation outcomes – Kotahitanga mō te Taiao strategy.
10. We run a trout hatchery at the Wairau Valley which has a freshwater crayfish farm located at the same site. This facility provides us a unique future opportunity to potentially investigate

(in partnership with DOC/Iwi) the rearing of wild captured giant and short-jawed kokopu whitebait, to be released as adults into suitable habitats they once existed in regionally. This would assist the Department of Conservation in determining key limiting factors for decline of these species and hopefully improve their regional extent/conservation status moving forward.

11. We monitor through annual counts both introduced and native gamebirds, but also note the numbers of non-gamebird species using the same habitat such as scaup and grey teal.

12. We annually monitor trout fisheries through techniques such as electric fishing, temperature datalogger installation, and drift diving. As well as trout fishery health information, health of native fisheries is gathered at the same time. For example, our latest electric fishing monitoring within the Riwaka River has seen complete destruction of most native fish species following cyclone Gita, indicating climate change is another pressure layer our native fish species are now under. In addition to the Riwaka, our 15 electric fishing monitoring sites within the Branch/Leatham catchment located within conservation land, also indicate that the juvenile rainbow/brown trout, Northern galaxiid, and dwarf galaxiid population biomass within these systems are all heavily influenced by the annual size and magnitude of flood events.

13. We run annual educational field trips with Queen Charlotte College students into Para Wetland for both native planting and wetland monitoring work.

14. This year we gathered from Nelson/Marlborough hunters, 200 samples of whole mallard and native 'grey type' ducks, to assist University of Texas Associate Professor Philip Lavretsky to undertake a New Zealand wide genetic and morphological assessment to identify whether or not pure New Zealand grey ducks are now functionally extinct due to hybridisation with mallard ducks.

15. We run a summer "check, clean, dry" program for MPI and local Councils, educating river users on aquatic pests, and the importance of not shifting Didymo to the North Island.

16. We assist NZDA in running an adult hunts course, and undertake a number of kids fish out days, family fishing initiatives and the like, all designed to connect more urban people with the outdoors, thus growing the number of New Zealanders whom will take an active interest in the long term health and future of Aotearoa's natural ecosystems, particularly our Awa and Wetlands.

References:

Crow et. al. 2016: Temporal trends in the relative abundance of New Zealand freshwater fishes – analysis of the New Zealand Freshwater Fish Database records prepared for Ministry for the Environment. Niwa Client report CHC2016-049.

Hayes et al. 2018: The influence of natural flow, temperature and introduced brown trout on the temporal variation in native fish in a reference stream. Canadian Journal of Fisheries and Aquatic science.

#### 6.3.14 Marine

- Marine expertise and careful mgmt. is required and is directly linked to the land.
- There is talk of a need to map the seabed. I'm not sure that too much effort need be expended on this. There is little remaining to be protected, the focus in the marine environment needs to be on recovery/restoration.

- Waimea inlet management strategy, lots of community involvement and good data recorded. You could expand it on to Rabbit island.
- Garbage and having clean rivers and waterways. For the rubbish in the ocean we should organize clean ups on the beaches and in the ocean using no fossil fuels e.g.: electric boats, swimmers or beach walks.

#### 6.3.15 Sanctuaries

- More predator proof sanctuaries / mainland islands
- Sanctuary's and National parks
- Rotoiti Mainland Island could be extended in area and by inclusion of more lowland ecosystems such as Big Bush or Howard Conservation Areas. Research could be focused on targeting all exotic predators (mammalian, avian, and invertebrate).

#### 6.3.16 Council programmes

- The local authority is lacking ecologists. There is a crisis of lack of expertise and guidance throughout the region but particularly in TDC Council and DOC. However even in the presence of ecological advice there are many instances of advice being ignored and not being followed by various council regulatory agencies. Break down institutional silos e.g. TDC's Roading & engineering Department's immunity to ecology.
- TDC needs to focus on wasps as PFNZ does not include them.
- More coastal reserves and projects are needed. Good work around Ligar Bay after the removal of old cottages.
- We believe that increasing the number of rubbish bins around the Tasman area will decrease litter. Pollution is one of the biggest obstructions regarding protecting the environment and giving people the ability to take charge of their environment whether it be something as trivial as putting your rubbish in a rubbish bin. Every little thing helps.
- Adopt a planning regime of tight village areas that can be serviced for transport/health/shop and leave food productive areas & wildlife areas intact. Don't do more ribbon/subdivision lifestyle blocks anymore.
- Work with catchments
- Embed priorities & biodiversity leverage potential through being acknowledged and recognised within the TEP.
- Work with NRDA to promote eco-friendly tourism both to potentially generate revenue and support which will aid biodiversity at both district and national level.
- Road reserve has a large lack of management when it comes to pest weeds and it can be seen throughout the district.
- Ultimately, if we value our own environment, we must be driven to act decisively to protect it. This will necessarily require changes to and restrictions on long-established practices in some situations. However, there is awareness of the need for urgent action, and much goodwill and desire to see matters improve with threatened species assisted to rebuild their populations, or at least protected from further decline in the immediate future. For the longer term, it will require sustained input and determination to maintain the drive to achieve widespread ecosystem stability and health. For this, bodies like TDC are required to show real leadership and commitment. That is the challenge that cannot be ignored, for our own longer term future health and prosperity.

## 6.4 METHODS

### 6.4.1 Research and monitoring

- Quantify impacts of herbivores on carbon stocks and biodiversity
- Research and development: We need to know more about the interrelated systems and organisms we are dealing with, and we need innovative ideas to implement effective management. This is of course related to funding, but might be better advanced through a regional institution that can generate and integrate R&D with a focus on the particular needs of the region and its ecosystems. Does NMIT have a part to play in this?
- More effective monitoring, alert systems and contingency plans to contain or eliminate incursions of potential pest organisms new to or expanding within the region.

### 6.4.2 Funding

- Funding: Raising the profile of the Biostrategy by building wider and deeper understanding and commitment among Tasman residents could help. It could be expected to encourage individuals, and communities to embrace increased spending by central and local government, and to generate grants from charitable trusts and direct donations. Perhaps a new or an existing organisation could promote this objective as a dedicated or major objective.
- Lack of resources – DOC funding imperative, over-reliance on volunteers, lack of Council investment

### 6.4.3 Cultural

- Consider use of cultural tools such as rahui and tapu.

### 6.4.4 Wildlife corridors

- General comment on wildlife corridors from montane to lowland that need identifying and supporting whether on private land or public.
- Wildlife corridors. We are privileged to live near two National Parks that reach mountain to oceans. Allowing movement for biodiversity by increasing forested corridors would help enhance populations.

### 6.4.5 Protected areas

- The pockets of protected area need to be increased to enable each protected area to filter out and connect with others.
- Otuwhero
- The Brook Sanctuary could provide a safe, predator-free nucleus for re-establishing native species in the Mt Richmond Forest Park but only if pests are effectively controlled in the latter.
- Thorp Bush, urban Motueka. One of the last remaining patches of the forest that used to cover the plains. It could become an island for native species to thrive within our town. I'd like to see Thorp Bush become a place that Motueka school children can go and learn about our unique flora and fauna. It is within walking distance of 2 schools. Getting kids learning in the outdoors is proven to be successful but it's hard to get a classroom full of kids into the outdoors when need to consider transport costs, adult ratios, etc. I'm not sure council could make this work for schools. If kids can go and do planting, trapping, footprint tracking tunnel monitoring, waterway clean-up, bird, fish, insect monitoring, weeding it would be great. The kids at primary school now will be the adults working to make this BioStrategy work in 15 years. Let's get them out into the environment and learning about biodiversity

and why it is important. I'm a bit biased as my kids attend Parklands School and would love to see them and their classmates getting out and leaning in our great outdoors. It might even help with reducing the social issues at Thorp Bush if we can get more of our town taking more care of this special place.

- Protected areas in Tonga Island and Separation point are an awesome start, but too small. Our less common marine habitats are fairly well protected, but our dominant habitat (soft sediment seabed) is almost entirely unprotected.

#### 6.4.6 New technologies

- Poisoning and trapping are only stop-gaps and cannot be carried out forever. Bio/genetic solutions need to be found and the "Predator Free NZ" group must be supported and not duplicated by TDC.
- Trap sensors for trapping projects

#### 6.4.7 Riparian protection

- Planting and fencing of waterways seems to have a positive effect, however, there are farmers still allowing their animals to graze next to waterways.
- Riparian fencing and planting.

#### 6.4.8 Land acquisition

- Purchase of lands for protection - such as Winter Creek - nikau and puketea trees and karst landscapes - currently infested with banana passion fruit vine and threatened by Italian jasmine. The land was recently offered to Council as part of a subdivision process by Mike Pooley and David Bott. The land would connect to other Council land and DOC land and enable a public walkway. But Reserves declined this.
- More coastal reserves and projects are needed. Good work around Ligar Bay after the removal of old cottages.
- Purchase of lands for protection - such as Winter Creek - nikau and puketea trees and karst landscapes - currently infested with banana passion fruit vine and threatened by Italian jasmine. The land was recently offered to Council as part of a subdivision process by Mike Pooley and David Bott. The land would connect to other Council land and DOC land and enable a public walkway. But Reserves declined this.

#### 6.4.9 Soft tech

- Promoting "soft tech" solutions for coastal environments under threat (wetlands, estuarine ecosystems) where indigenous vegetation can absorb wave action, mitigate high flow events and assist recovery.

#### 6.4.10 Integrated planning

- A marine Management Plan for G. Bay and Tasman. There are many conflicting uses of our marine environment. A management plan involving all stakeholders could sort much of this as well as protect biodiversity in this neglected ecosystem.

#### 6.4.11 Enabling landowners

- Working with landowners to ensure invasive species are controlled and reduced or even eradicated, e.g. Italian Jasmine - Pampas Grass - Velvet Groundsel. I have caught twice as many rats this year compared to other years and cats roam freely. There needs to be tight controls on cats and rats.
- Every practical effort should be made to promote QE11 reserves on private properties.

- Currently doesn't appear to be any funding assistance by Tasman District Council for protecting existing native bush on private land for fencing or weed control (unless it is around waterways) - at least in some areas of the district. The cost of fencing some of these areas can be a considerable financial barrier limiting private landowners from fencing some of these areas off from stock. Time and/or financial barriers can also limit weed control being carried out. While I don't think landowners should expect others to pay 100% of the costs – I believe by providing some assistance, it is likely some of these areas will be better and more quickly protected than the current situation. I also personally believe that bang for buck in most cases it is probably better to protect existing native bush remnants rather than focusing on new plantings as these will provide seed sources and recover/provide food/habitat quicker than new plantings.

*Is looking after biodiversity (all marine, land and freshwater life) something we should be doing in Tasman. Why?*

- Yes we all should...not just landowners. Everything we do does have an effect but it is everyone

*Should Tasman be spending more money and effort on biodiversity management so the things we enjoy are still going to be here in the long term?*

- If we say yes then the funds will come out of Tasman rates....if we say no then we are not looking after biodiversity. My thoughts are that central govt needs to get on board with significant funding so all of NZers contribute. Cities which have lost much of their biodiversity could therefore be supporting regions which still have resources to look after

*How do primary producers want the environment to look like or be in 2050? (e.g.; lots of native birds everywhere, lots of fish in the sea, large tracts of natural habitats full of different species???)*

- Fairly "loaded question" ....we would like to see thriving farms with healthy stock . Also healthy streams, some trees and bird life in appropriate areas

*Is the Tasman Biostrategy a useful means of achieving a primary produces' 2050 vision or can this be done some other way?*

- Better to be done locally but funded thru a national bod.

*Should the Strategy be community driven with support from Council or is it best for it to be Council driven with input from the community?*

- Community should be initiating but not expected to make it all happen. Volunteers can only do so much and applying for various financial assistance i a huge job

*How important is effective pest plant and animal control to biodiversity management?*

- Very important....and TDC itself needs to get active on this one. Old man's beard, cotoneaster, woolly nightshade, buddleia are all plants that are spreading along roadsides and becoming a threat

*Are there specific pest management priorities – why are they a priority?*

- plants mentioned above in Q "f", possums, stoats,

*Are there specific species or habitat priorities? Why and where?*

- DoC land is a good place to start as Tasman district has a large proportion of area already in govt hands and that is where priority could be with govt money . Doc has become focussed on tourism rather than conservation and it is contradictory to expect private landowners to front up to managing biodiversity when Doc are not prioritising it.

*Are there opportunities to enhance biodiversity on private land – how can landowners (urban and rural) be encouraged, welcomed and confident contributors and supporters for the protection and enhancement of biodiversity?*

- Financial support is always a good place to start. Funding for fences ( building and maintaining). Weed control

*Is co-ordination and alignment of multiple biodiversity projects a realistic and sensible way forward and will it create greater biodiversity gains?*

- Needs good co-ordination and not competition between projects especially for what always seems to be limited resources

*What resources are essential to the success of a biodiversity strategy?*

- Money, common sense, respect for private property, water testing ( e.g. rather than mandatory fencing of streams check the water where it enters a property and where it leaves...there may be no issue in quality and no need to fence). We have become somewhat cynical after having wetlands, outstanding natural landscapes and all sorts of SNA identified on our place but no real support

#### 6.4.12 Education

- Coordinated and ongoing regional promotion and education programmes to develop awareness and understanding of and commitment to the strategy and the need for it, through regular dedicated articles and news releases and publication agreements with local and national media and an online presence.
- Community awareness and buy-in (specifically the latter)

#### 6.4.13 RMA

- Significant Natural Areas. This mapping and implementation to be done much faster, as we are losing these sites while they are being surveyed.
- ONFLs. These landscapes should be in the plan by now, they contain some significant biodiversity.
- Identification and Classification of the Most Important Remaining Natural Areas. The central government mandated exercise of determining Significant Natural Areas (SNAs), Outstanding Natural Landscapes (ONLs) and Outstanding Natural Features (ONFs) has languished for years without being pursued to completion. This failure to complete this most basic determination and cataloguing of our natural assets shows the true lack of commitment to date by TDC to the concept of encouraging and protecting our biodiversity. Without this knowledge, and the necessary following statutory legislation and enforced regulations to protect these areas appropriately, how can we possibly preserve the habitats of our threatened native species? This task must be pursued and completed urgently. We have a number of highly specialized habitats such as Mt Burnett which are home to small populations of endemic species found nowhere else in the world. These must be protected

from knowing or inadvertent disturbance, but again this requires that such areas are accurately identified and then given effective protection.

- Landscape. There has been a large amount of effort and expertise studying outstanding landscapes and seascapes, particularly for Golden Bay. A key criteria used in designating outstanding landscapes is naturalness. This should be recognised and incorporated into the biodiversity strategy. It can inform the most critical areas. For example, the importance of the estuaries and zone close to the sea/land boundary is recognised in the proposed landscape plan.