Policy Committee - 13 June 2018 Attachments

Minutes of a meeting of the Policy Committee held in the Auditorium, Toitu Museum, Dunedin, Wednesday 2 May 2018, commencing at 1:27pm

Membership

Cr Gretchen Robertson	*(Chairperson)*
Cr Michael Laws	*(Deputy Chairperson)*
Cr Graeme Bell	
Cr Doug Brown	
Cr Michael Deaker	
Cr Carmen Hope	
Cr Trevor Kempton	
Cr Ella Lawton	
Cr Sam Neill	
Cr Andrew Noone	
Cr Bryan Scott	
Cr Stephen Woodhead	

Welcome

Cr Robertson welcomed Councillors, members of the public and staff to the meeting.

1. APOLOGIES

No apologies were advised.

2. LEAVE OF ABSENCE

The Leave of Absence fro Cr Bell was noted.

3. ATTENDANCE

Sarah Gardner	*(Chief Executive Officer)*
Nick Donnelly	*(Director Corporate Services)*
Tanya Winter	*(Director Policy, Planning & Resource Management)*
Sian Sutton	*(Director Stakeholder Engagement)*
Gavin Palmer	*(Director Engineering, Hazards & Science)*
Scott MacLean	*(Director Environmental Monitoring & Operations)*
Ian McCabe	*(Executive Officer)*
Lauren McDonald	*(Committee Secretary)*

4. CONFIRMATION OF AGENDA

The agenda as tabled was confirmed.
Note: Any additions must be approved by resolution with an explanation as to why they cannot be delayed until a future meeting.

5. CONFLICT OF INTEREST

No conflicts of interest were advised.

6. PUBLIC FORUM

No public forum was held.

7. PRESENTATIONS

No presentations were held.

8. CONFIRMATION OF MINUTES

Resolution

That the minutes of the meeting of 21 March 2018 be received and confirmed as a true and accurate record.

Moved: Cr Hope
Seconded: Cr Noone
CARRIED

9. ACTIONS

Status report on the resolutions of the Policy Committee.

Report No.	Meeting	Resolution	Status
11.3 Managing the use of coal for domestic heating in Otago and New Zealand (Technical Committee)	31/1/2018	*Refer a paper to the Policy Committee for consideration for inclusion of Milton in Air Zone 1.*	In progress.

10. MATTERS FOR COUNCIL DECISION

Nil

11. MATTERS FOR NOTING

The report outlined the work being undertaken for national and regional policies, strategies and plans for the reporting period to 2 May 2018.

Discussion held on urban development capacity and rate of development particularly in Central Otago. Ms Winter advised it was intended for a proposal to go to the Mayoral Forum on bringing elected members together for discussion on planning for growth in an integrated way.

Regional Policy Statement (RPS)

Ms Winter advised that the draft of the RPS and implementation plan were currently being developed. Focus was on providing understanding on where the RPS fits, how it works, as part of the inform communications.

Mrs Gardner commented that current inconsistencies between the new RPS and current plans were be reviewed and addressed.

Discussion was held on development of an easy to read, accessible RPS consultation document which provides key pieces of inform, to act as a tool to link into Regional Policy Statement . Mrs Sutton confirmed communications planning underway for production of the consultation document.

Resolution

a) That this report be noted.

Moved: Cr Deaker
Seconded: Cr Noone
CARRIED

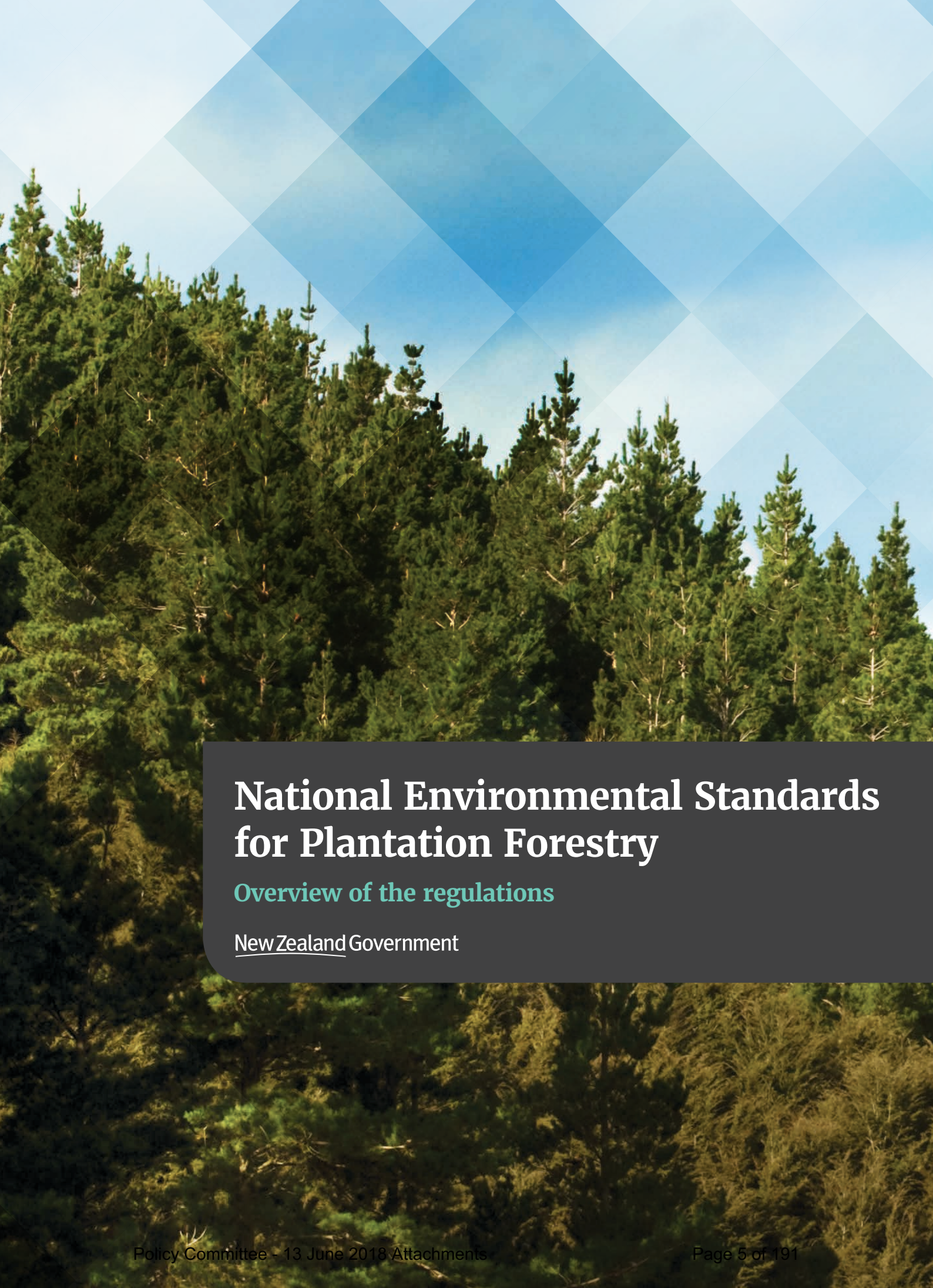
12. NOTICES OF MOTION

No Notices of Motion were advised.

13. CLOSURE

The meeting was declared closed at 1:52 pm.

Chairperson



National Environmental Standards for Plantation Forestry

Overview of the regulations

New Zealand Government

New national rules for plantation forestry

Plantation forestry is New Zealand's third largest primary sector. It delivers significant economic and social benefits to New Zealand, employing over 26,000 people and generating around $5 billion in export earnings each year. Plantation forests also provide environmental benefits such as improving water quality, controlling erosion, and providing a temporary carbon sink.

As with most land uses, plantation forestry activities can also adversely affect the environment if not well managed. The greatest risk occurs when land is exposed during harvesting or earthworks.

Previously, the rules governing forestry activities were provided in district and regional council plans. These rules were designed to take into account local environmental conditions and community priorities. While local variation has offered some benefits, it has unnecessarily increased costs and operational complexity for the forestry sector, particularly for forests that cross council boundaries[1]. This variation across council plans has also meant that there has been an inconsistent level of environmental management.

Now, a new nationally consistent set of regulations will create more certainty. The National Environmental Standards for Plantation Forestry (NES-PF) permit core forestry activities provided there are no significant adverse environmental effects. Where the risks of harm to the environment are too high, or if a forest operator can't meet the regulatory requirements for a permitted activity, the operator will need to apply for resource consent.

At the same time, the regulations recognise that different rules may be needed to manage some specific local circumstances and give effect to other RMA national direction tools such as the National Policy Statement for Freshwater Management and the New Zealand Coastal Policy Statement. Councils will be able to impose stricter rules in unique and sensitive environments, including those with special significance to the community.

Forestry activities regulated by the NES-PF

The NES-PF covers eight core plantation forestry activities:

- afforestation
- pruning and thinning-to-waste
- earthworks
- river crossings
- forest quarrying
- harvesting
- mechanical land preparation
- replanting.

1 Research indicates that more than 300 forest owners (whose land accounts for more than 80 per cent of the national plantation estate) have forests across more than two districts and approximately 200 of these owners manage forests in two or more regions.

The regulations apply to any forest larger than one hectare that has been planted specifically for commercial purposes and harvest. This does not include, for example, trees grown for fruit, nut crops, shelter belts, or nurseries.

There are also certain activities and effects that are not in the scope of the regulations. In most cases, the regulations do not cover plantation forestry activities that occur outside the boundaries of the forest land[2], such as the effects of logging trucks using public roads. Existing regional and district plan rules will continue to apply to the activities and effects that are outside the scope of the regulations; examples include but are not limited to, cultural and historic heritage, agrichemical use, burning, water yield and milling and processing activities.

Managing the environmental effects of forestry activities

Most forestry activities are permitted by the NES-PF as long as foresters meet specific conditions to prevent significant adverse environmental effects. The regulations are based on existing good practice standards for the forestry industry.

If foresters are unable to meet these conditions, they will need to apply for a resource consent.

Some of the conditions in the NES-PF are:

- for afforestation, permitted activity conditions include setbacks for tree planting from rivers, lakes, wetlands, coastal areas and significant natural areas. Setbacks provide a buffer between forestry activity and these areas, providing shading and habitat for aquatic species and helping to avoid erosion of stream banks
- for harvesting to be a permitted activity, foresters must submit a harvest plan to their local council if requested. The plan should identify environmental risks, including erosion susceptibility using the Erosion Susceptibility Classification tool, and must list the mitigations to be used to respond to those risks and achieve compliance with permitted activity conditions
- for earthworks, permitted activity conditions include the requirement to install and maintain stormwater and sediment control measures. Spoil, the by-product of excavation and earthworks, cannot be deposited where it may readily enter or deliver sediment into a water body, coastal area or significant natural area.

Under the NES-PF, some of the rules governing forestry activities may be stricter than in current council plans; while in some other cases they may be more lenient. An independent review of council plans from nine regions, representing a cross-section of jurisdictions and environmental characteristics, showed that the NES-PF will raise environmental standards for most effects when compared to existing council rules.

2 The exception is a rule relating to the carriage of quarry material between forests within two kilometres of each other, where they have the same owner.

Tools for councils and foresters

Three tools are available to councils and foresters to help determine when consents will be needed for forestry activities. These tools identify the risk of wilding conifer spread, erosion, and disturbance to waterways while fish are spawning. The tools will also help foresters to identify and plan their forestry operations to avoid or mitigate these risks.

Erosion Susceptibility Classification:

This divides the New Zealand landscape into four categories. Land areas coloured green (low) and yellow (moderate) have lower erosion risk and so forestry activities are permitted. Permitted activities are subject to conditions under the regulations that are based on industry good practice standards. Where there is a high or very high risk of erosion (areas mapped as orange and red), stricter requirements apply and some forestry activities cannot be carried out without resource consent.

Wilding Tree Risk Calculator:

The regulations include measures to control the spread of wilding trees. Land owners and forest operators are required to apply the Wilding Tree Risk Calculator to a site when they are considering establishing a new plantation forest or replanting a different type of conifer that has a higher risk score than the previous species. If the risk of wilding spread is high, resource consent will be needed for afforestation and planting the new species.

Fish Spawning Indicator:

Freshwater fish species are vulnerable to disturbance during spawning. The NES-PF uses the Fish Spawning Indicator to identify a list of 33 fish species that require protection from disturbance during spawning, and imposes controls on certain forestry activities during these times. The Fish Spawning Indicator allows a forest operator to determine if one or more of the listed fish species may be present in their area, and identifies the applicable spawning times for that site.

Provisions for local priorities

The NES-PF is designed to provide a nationally consistent set of rules that address the risks of forestry activities and protect sensitive environments. However, there are some locations that require a greater degree of protection than is provided for in the regulations. For this reason, the NES-PF allows councils to make rules that are more stringent where necessary.

Regional and district councils are able to impose stricter rules in relation to significant natural areas, outstanding natural features and landscapes, specified geological areas, and sensitive receiving environments. A local rule can also be stricter than the NES-PF if it is needed to give effect to the National Policy Statement for Freshwater Management or the New Zealand Coastal Policy Statement.

New processes for forestry management

The NES-PF marks a significant change in the way forestry activities are managed under the Resource Management Act and will have a direct impact on how councils and foresters conduct their day-to-day activities.

Councils:

Councils will no longer need to develop forestry-specific rules in their plans for those activities covered by the NES-PF or include forestry activities under general plan rules. This should reduce the costs of plan development and litigation. Council staff in planning, consenting, and monitoring and compliance roles will need to understand the rules that apply to forestry activities and how they relate to other rules in their plans and wider legislation. Central government will provide guidance materials and support for councils to help them implement the new regulations, including where they have the flexibility to apply more stringent rules.

Forest owners and operators:

Forest operators will need to familiarise themselves with the requirements for each activity and understand how the tools apply to their own land. Where required they will need to prepare and keep records of their forestry earthworks management plan, harvest plan, and quarry erosion and sediment management plan. Standardised templates and best practice examples are being developed along with further guidance materials to ensure forest owners and operators understand what is required of them and how to prepare their plans under the NES-PF.

Forest operators will also need to understand when and how to use the Erosion Susceptibility Classification, the Wilding Tree Risk Calculator and the Fish Spawning Indicator in their operational planning.

Iwi:

Māori may have an interest in the NES-PF as forest owners and as kaitiaki. Agreements made between iwi and councils can be protected in the NES-PF through the flexibility to manage and protect unique local environments and sensitive receiving environments, including significant water bodies, by applying more stringent rules. Cultural and historic heritage sites such as wāhi tapu are out of scope of the NES-PF regulations, so existing local rules and wider legislation will still apply.

Implementing the regulations

The NES-PF will come into effect on 1 May 2018. This allows time for the Ministry for Primary Industries and the Ministry for the Environment to provide support and guidance to councils and foresters to help them understand their responsibilities under the NES-PF.

Find out more

Website: www.mpi.govt.nz/growing-and-producing
NES-PF support: 0800 00 83 33
Email support: info@mpi.govt.nz

Postal address:
Spatial, Forestry and Land Management
Ministry for Primary Industries
P O Box 2526
Wellington 6140

Published by the Ministry for the Environment
and the Ministry for Primary Industries in August 2017
Publication number: INFO 804

New Zealand Government

Otago Regional Council

Document Id:

MEMORANDUM

To: Policy Committee

From: Jason Augspurger and Pete Ravenscroft

Date: 11 April 2018

Re: RSU assessment of NES-PF and the Fish Spawning Indicator

---

1. In our assessment of the National Environmental Standards for Plantation Forestry (NES-PF) we have two concerns:
   - fish protection applies primarily during spawning time; and
   - inherent limitations in the Fish Spawning Indicator Tool.

2. Otago's fish community is one of the most diverse in New Zealand as it is the centre of non-migratory galaxiid diversity. As a result, we believe the provisions in the NES-PF around protection for Otago's fish communities are less stringent than the current provisions in sections 12.C and 13.5 of the Regional Plan: Water for Otago (Water Plan) which allow a case-by-case consenting approach.

3. We believe that fish species should be protected throughout the year opposed to just during spawning times. While species such as trout migrate and therefore are unlikely to be present in spawning streams outside of the spawning season, non-migratory galaxiids are present in the same stream year-round. As a result, negative effects on streams may have immediate effects on adult non-migratory galaxiids. Further, the small streams in which non-migratory galaxiids reside do not have the same potential for sediment flushing flows. If sediment is deposited, it is likely to remain and have negative impacts on future spawning seasons.

4. While the Fish Spawning Indicator Tool developed by the Ministry for Primary Industries (MPI) is likely the best possible effort, many of the limitations present and currently outlined, are particular to non-migratory galaxiids and the Otago region. Concerns include:
   - The underlying data used from the New Zealand Freshwater Fish Database (NZFFD);
   - Lack of knowledge around spawning times of non-migratory galaxiids;
   - Capability of the model to correctly predict Otago's fish communities

Otago's concerns about the Fish Spawning Indicator Tool

1. Page 1: All of the bullet points on which address comments from submission on the NES-PF apply to Otago.
2. Page 3: Nearly all of the non-migratory galaxiids listed here are present in Otago. Further, "Once formal description of these species is complete, this will reduce the area of South Island and Stewart Island with indeterminate taxa from the *G. vulgaris* group to just areas of the Clutha River catchment and lowland rivers adjacent to the Clutha catchment"
    a. the proposed formal descriptions will leave a large gap in Otago.
3. Page 4: "The following six indeterminate taxa were noted as omissions in the submissions: lower Clutha galaxias, Clutha flathead galaxias, Teviot flathead galaxias, Nevis galaxias, Pomahaka galaxias and northern flathead galaxias."
    a. 5 of the 6 are Otago galaxiids
4. Page 4: "an additional 8 indeterminate taxa, including further galaxiid taxa: southern flathead galaxias, Waitaki lowland longjaw galaxias, Southland alpine galaxias, Manuherikia alpine galaxias, Waitaki upland longjaw, dune lakes galaxias, dwarf galaxias (northern) and one bully, *Gobiomorphus*, upland bully (West Coast and North Island)."
    a. Three of these species are found in Otago.
5. Page 4: "The NZFFD only records four indeterminate flathead galaxias taxa separately in the database: Clutha, southern, northern and Teviot flatheads. With two exceptions all other indeterminate taxa are included in the NZFFD within the records for determinate taxa (Table 1). The two indeterminate taxa, the Pomahaka galaxias and lower Clutha galaxias, are recorded as Clutha flatheads in the NZFFD. In all cases a geographic filter will separate the determinate and indeterminate taxa if required."
    a. This does not account for identification errors present in the data base or relic distributions such as Taieri flatheads occurring in the upper Shag. A thorough understanding of river captures would be needed to successfully apply these filters.
6. Page 4: "The Crow et al. (2014) fish prediction model provides the likelihood of fish presence for areas where no fish survey records are available. This modelling has also been conducted using the closely related determinate taxa for six indeterminate taxa. Crow et al (2014) has also developed distribution models for two indeterminate taxa, the northern flathead and Clutha flathead (*G.* 'northern' and *G.* sp D). However, the Clutha flathead model will be confounded as it uses NZFFD records that include the Pomahaka galaxias and lower Clutha galaxias records. Therefore, this prediction model will be using incorrect geographic boundaries for the geographically restricted model and the environmental, spatial and hydrological variables used in the model will come from a larger dataset that may not be appropriate for *G.* sp D, as set out by Bowie et al (2014) as part of the taxonomic review process for galaxiids in New Zealand."
    a. This applies directly to Otago and only Otago.
7. Page 5: "From the simple biological perspective, the distinction between determinate and indeterminate taxa is a limited issue. This is because all of the indeterminate taxa are closely related to described species and the majority of these can be expected to have similar biological traits (***Table 2***)."
    a. This is somewhat true, but key early life-history differences are present among the species which effect spawning time. See Peter Jones's work and Jones, Augspurger, and Closs (2017).

8. Page 5: As a whole applies specifically to Otago. While we agree that it would often result in more conservative measures, the NES-PF fails to address that what happens out of spawning time this year is likely to have negative impacts on spawning next year.
9. Page 6: "Spatial distribution data held in the DOC GIS for the indeterminate taxa is used to map the occurrence of these taxa."
    a. This is fine but unlikely to provide the level of protection that consenting on a case by case basis does. More surveys and a better understanding would be needed for this to be appropriate.
10. Page 7: "The following long-term recommendations are made to address the most outstanding issues with indeterminate taxa:

- Spawning information for the indeterminate taxa is acquired to confirm the spawning timings proposed for the NES-PF.
- The forestry impact risk assessment process is conducted for indeterminate species in the Clutha River catchment using data gathered from populations of the indeterminate species in this catchment
- Fish surveys are conducted to determine the distributions of the Pomahaka galaxias and the lower Clutha galaxias;
- MPI support efforts to resolve the taxonomic status of populations of *Galaxias* in the Pomahaka and lower Clutha galaxias taxa; and
- Research is conducted into the reasons for the loss of the lower Clutha galaxias in forestry areas and into the spawning biology of the Pomahaka and lower Clutha galaxias. "
    a. We would support all of these points. But, as they are currently gaps, and limited to Otago, a consenting based approach in Otago would provide better protection.
11. Page 8: "Currently there are no limitations on spawning or distribution data that prevents the inclusion of the majority of indeterminate taxa in the NES-PF. There is sufficient data available to allow distributions to be mapped in the NES-PF spatial layer. For some taxa this will be a simple process of splitting an existing determinate taxa into two or more taxa along well recognised geographic boundaries. For other taxa the distributions will need to be added to the spatial layer but this is considered a simple mapping task using the fish data available."
    a. While these species can be included in the spawning calendar misidentifications, relict populations, a lack of distribution data and the need to provide protection outside of spawning periods are all important reasons for why RSU would prefer a consenting approach.
12. Page 8: "Spawning information required to set the NES-PF spawning rules for indeterminate taxa is available from the taxa themselves or closely related taxa and will be sufficient for use in the NES-PF. The Pomahaka galaxias and lower Clutha galaxias are problematic as their distributions are not well understood and spawning information is limited. However, mapping can be conducted using existing data and spawning rules set using data from other galaxiids. It is recommended that fish surveys and research is conducted for these two taxa to refine the distributional data, to understand the risk forestry activities pose and to better understand spawning activities."
    a. As these species are threatened, endangered or nationally critical, we feel using data from closely related taxa is not necessarily sufficient to apply on a broad scale. We agree that with more fish surveys and research the tool could be further refined and the potential for use on the non-migratory galaxiids in Otago. However, until this information is gained, we feel the spawning tool provides insufficient protection for these species. Further these fish also require protection outside of the spawning season, which is not included in the NES-PF.

13. Page 10 “The most recent records can also be assessed for the presence of species known to eliminate vulnerable species, for instance when old records record a non-migratory galaxiid is present and the most recent records indicate brown trout are present, but no galaxiids, then it is highly likely the galaxiid has been eliminated as a result of the arrival of brown trout.”
    a. This is often true. However, the sampling points are not continuous and do not cover the whole stream. As a result, if if galaxiids are no longer found at the sampling point they won’t be found in the stream is risky. Galaxiids may still be located upstream or elsewhere.
14. Page 10 “The greatest difficulty is found when trying to distinguish between Canterbury galaxias and koaro and between northern flathead and koaro. NZFFD records for these species in these regions do have some errors. Given the different spawning timing of koaro and the flathead galaxiids this confusion can lead to the NES-PF rules being applied to the wrong species and/or stream reach. Another species pair that can be misidentified are the alpine galaxias dwarf galaxias pair, especially in Marlborough where the two species co-occur and a commonly used identification feature does not hold true (Allibone 2002).”
    a. Species I.D. issues are common throughout the NZFFD. In some cases people mistake the salmonids. All of the non-migratory galaxiids are difficult to identify from each other. Unlike with salmonids, many people use the geographic location to determine the species of non-migratory galaxiid. As a result, this spatial information may be highly skewed if a species distribution is not well understood. For instance, the Taieri flathead galaxiids in the Shag may be assigned an incorrect id. This is problem that is primarily unique to Otago.
15. Page 11 “By far the majority of natural barriers (waterfalls) and small structures such as culverts are not included in the model. This has led to the model predicting fish are present further upstream than they actually occur. In the case of salmonids, the model has, at times, predicted they are present in areas that are in fact occupied by threatened galaxiids. For the NES-PF spawning rules, this will lead to the use of incorrect spawning timing. However, if spawning and egg development times for salmonids are used as proposed in this report (see Section6.3.3), then greater restrictions on forestry activities may occur than if galaxiid spawning times were used.”
    a. This also means there is limited ability to detect potential galaxiid populations which have not been sampled. As the stream reaches where non-migratory species are often present are less capable of flushing sediment than those containing trout, protection is needed year-round. Sediment deposited will likely negatively effect spawning regardless of when.
16. Page 12 Populations of the roundhead galaxias in the Ewe Burn, Prices Creek and Spratts Creek in the Taieri River catchment are all believed to be extinct
    a. Large populations of roundhead galaxias are still present in the Ewe Burn as of 12/12/2017.
17. Page 12 There is no simple way to devise a rule to filter the NZFFD records [in regard to extinctions]. Expert opinion can be used for the rarer native fish that are subject to some monitoring by DOC and Regional Councils to filter out some records. Given the limited ranges of many of the native fish taxa this filtering task could be readily accomplished.
    a. While this is true for some records, the record highlighted in the point 17 represents the danger in doing this. An extensive number of fish surveys would need to be carried out. As a result, we feel a consenting approach is more appropriate as it allow these surveys when a consent is applied for.

18. Page 13: Sample regions in the Taieri River catchment … The spatial layer using the fish prediction model places Taieri flatheads and dusky galaxias in this catchment, although neither have been recorded in this catchment. Taieri flatheads and dusky galaxias are also recorded in areas of the Lee Stream catchment where no records for these species exist. The predictive model has both dusky galaxias and Taieri flathead galaxias as widespread species in these catchments. It is most likely that these stream reaches are actually occupied by either by Eldon's galaxias or by brown trout or are fish free. Brown trout is also occasionally predicted to occur in the upper reaches of streams upstream of non-migratory galaxiids in areas it is known not to occur.
    a. This is exactly what we have concerns about. The non-migratory galaxiids are difficult to predict using a model due the limited quality and amount of data.
19. Page 14: The areas where errors will be apparent is at the geographic boundaries of the non-migratory fish distributions and in areas where small headwater streams occur in close proximity. Expert mapping of the non-migratory galaxiid distributions will aid in reducing this issue.
    a. We have experts capable of doing this. However, we believe this should be done on a case by case basis.
20. Page 15 For example, in the Taieri River a large rapid upstream of Canadian Flat excludes all fish aside from Taieri flathead galaxias from the upper reaches of the Taieri River and its tributaries. The RECFPM has brown trout, brown trout and Taieri flatheads or Taieri flatheads present in reaches upstream of the rapid. All brown trout predictions are incorrect and in this case represent a substantial upstream increase in the range of brown trout. A similar issue was noted in the adjacent Waikouaiti River catchment, where brown trout are again predicted to occur well upstream of waterfall barriers and adjacent to reaches that NZFFD records indicate brown trout have not been caught.
    a. These types of situations are why we feel these practices should be assessed on a case by case assessment.
21. Page 19 The updating of the spatial layer can be timed to match the DOC threatened fish ranking process that is now expected to occur once every five years.
    a. Knowledge of non-migratory galaxiids is often changing and we regularly require applicants to conduct fish surveys as part of the consenting process to determine if non-migratory galaxiids are present. As a result, we feel using data obtained from the region for the consenting purpose is more fit for purpose than 5 year old nzffd data.
22. Page 21 However, for the native fish the spawning biology is less well understood and there are few studies available to provide guidance. Therefore, it is very important to note the data used to provide information on native spawning is sparse and further investigations may provide different information to that presented here.
    a. This is one of the reasons we feel non-migratory galaxiids should be protected year round.
23. Page 24: November to January is recommended. It is also recommended that this spawning period split is included in the workshop agenda with koaro experts.
    a. Landlocked koaro in Otago spawn August-November in the large lakes.
24. Further comments on spawning time:
    a. We believe that negative effects to the spawning habitat of fish at any point in the year have the potential to have negative impacts on fish spawning success and recruitment. As a result, the consenting approach should be used.

Otago Regional Council

Amendment 2 (NES Plantation Forestry)

Regional Plan: Water for Otago

Regional Plan: Water for Otago incorporating Amendment 2 (NES Plantation Forestry)

ISBN 978-0-908324-43-9
1 JULY 2018

Otago Regional Council

This is a true and correct copy of Amendment 2 to the Regional Plan: Water for Otago, which was approved by resolution of the Otago Regional Council on Wednesday, 27 June 2018.

Amendment 2 to the Regional Plan: Water for Otago is deemed to be operative on Monday 2 July 2018.

The Common Seal of the Otago Regional Council was hereto affixed pursuant to the resolution of the Council passed on Wednesday, 27 June 2018 in the presence of:

Stephen Woodhead
Chairperson

Gretchen Robertson
Deputy Chairperson

Chronicle of Key Events

Key event	Date notified	Date decisions released	Date operative
Regional Plan: Water	28 February 1998	7 July 2000	1 January 2004
Variation No. 1 to the Regional Plan: Water	3 October 1998	7 July 2000	1 January 2004
Waitaki Catchment Water Allocation Regional Plan	19 February 2005	30 September 2005	3 July 2006
Plan Change 1A to the Regional Plan: Water	17 August 2005	1 April 2006	1 August 2006
Plan Change 1B (Minimum Flows) to the Regional Plan: Water	20 December 2008	31 October 2009	1 March 2010
Plan Change 3A (Minimum Flow for Taieri River at Tiroiti) to the Regional Plan: Water	26 June 2010	8 December 2010	1 May 2011
Amendment 1 (NPS Freshwater Management) to the Regional Plan: Water	24 June 2011	24 June 2011	1 July 2011
Plan Change 1C (Water Allocation and Use) to the Regional Plan: Water	20 December 2008	10 April 2010	1 March 2012
Plan Change 4A (Groundwater and North Otago Volcanic Aquifer) to the Regional Plan: Water	18 September 2010	24 September 2011	1 March 2012
Plan Change 2 (Regionally Significant Wetlands) to the Regional Plan: Water	2 July 2011	12 May 2012	1 October 2013
Plan Change 6A (Water Quality) to the Regional Plan: Water	31 March 2012	20 April 2013	1 May 2014
Plan Change 3B (Pomahaka catchment minimum flow) to the Regional Plan: Water	16 August 2014	14 February 2015	1 June 2015
Plan Change 4B (Groundwater allocation) to the Regional Plan: Water	17 May 2014	13 December 2014	1 September 2015
Plan Change 4C (Groundwater management: Cromwell Terrace Aquifer) to the Regional Plan: Water	16 August 2014	13 December 2014	1 September 2015
Plan Change 3C (Waiwera catchment minimum flow) to the Regional Plan: Water	13 December 2014	8 August 2015	1 March 2016
Amendment 2 (NES Plantation Forestry) to the Regional Plan: Water	30 June 2018	30 June 2018	1 July 2018

Table of Contents

Policy Committee - 13 June 2018 Attachments Page 19 of 191

Introduction to Amendment

The Resource Management National Environmental Standards for Plantation Forestry 2017 (NES-PF) were made on 31 July 2017 and take effect from 1 May 2018.

The purpose of Amendment 2 (NES Plantation Forestry) is to remove any conflict and duplication between rules in the Regional Plan: Water for Otago and the NES-PF.

Section 44A of the Resource Management Act (1991) requires councils to amend plans to remove duplication or conflict with national environmental standards:

- as soon as practicable after the standards come into effect;
- without using the Schedule 1 process; and
- in accordance with the national environmental standards.

Regulation 6 of the NES-PF provides that a rule in a regional or district plan can be more stringent that the regulations if the rule gives effect to a freshwater objective developed to give effect to the National Policy Statement for Freshwater Management.[1]

The Council has applied stringency to rules in the Regional Plan: Water for Otago (Water Plan) that apply to plantation forestry and give effect to Objective A1(a) of the National Policy Statement for Freshwater Management:

To safeguard the life-supporting capacity, ecosystem processes and indigenous species including their associated ecosystems of fresh water, in sustainably managing the use and development of land, and of discharges of contaminants.

The Water Plan objectives, policies and rules that relate to plantation forestry activities were reviewed and refined by Plan Change 6A (Water Quality), which was developed under the National Policy Statement for Freshwater Management 2011.[2] The rules in sections 12.C and 13.5 of the Water Plan, which apply to discharges and bed disturbance from forestry activities, were introduced and/or reviewed as part of this plan change. These rules control discharges of sediment to protect ecosystem health.

They are applied to achieve Objective 7.A.2 in the Water Plan: *To enable the discharge of water or contaminants to water or land, in a way that maintains water quality and supports natural and human use values, including Kai Tahu values.*

In accordance with Policy 7.B.2: *Avoid objectionable discharges of water or contaminants to maintain the natural and human use values of, including Kai Tahu values, of Otago lakes, rivers, wetlands, groundwater and open drains and water races that join them.*

The relevant values that Objective 7.A.2 and Policy 7.B.2 support/maintain are in section 5.2.1 of the Water Plan and include:

(c) Indigenous vegetation, habitats of indigenous fauna, and habitats of trout and salmon; and
(d) Ecosystem values.

[1] NES Plantation Forestry, Regulation 6(1)(a).

[2] Plan Change 6A was notified on 31 March 2012 and became operative on 1 May 2014.

The primary reason for applying stricter Water Plan rules is to protect indigenous non-migratory fish (i.e. galaxiid species). These species are classified as threatened and are particularly vulnerable to habitat disturbance and sedimentation. The NES-PF provisions relating to bed disturbance focus on the protection of habitats during spawning season. However, sedimentation of small streams where galaxiid species reside has lasting effects, so it even if it occurs outside of spawning seasons, it has negative effects on spawning the following season.

On 27 June 2018 Council resolved to make Amendment 2, with effect from 1 July 2018. This decision was publicly notified on 30 June 2018.

The following sections detail the operative provisions of Amendment 2 in order of chapters in the Water Plan. An updated version of the operative Water Plan, incorporating this amendment, is also available.

1
Introduction

1.4 Process of Plan preparation

….. Plan Change 3C was made operative on 1 March 2016.

Amendment 2 was made to remove any duplication and conflict of rules in this plan with the Resource Management National Environmental Standards for Plantation Forestry Regulations 2017, which came into effect on 1 May 2018. The amendment was made operative on 1 July 2018.

Policy Committee - 13 June 2018 Attachment 1 Item 2

11 Introduction to the Rules

11.2.4 Index to the rules

Table 2 provides a guide to find the relevant rules for any particular activity.

Table 2: Index to Regional Plan: Water rules

If the activity involves any of the following	See the following rules of the Plan	
Water use and management		
Applications to take water	**12.0**	Applications to take surface water and groundwater
The taking of: • Surface water	**12.1**	The taking and use of surface water
• Groundwater	**12.2**	The taking and use of groundwater
• The damming or diversion of water	**12.3**	The damming or diversion of water
The discharge of water or contaminants, in terms of:		
• Human Sewage	**12.A**	Discharge of human sewage
• Hazardous substances, hazardous wastes, specified contaminants, and stormwater; and discharges from industrial or trade premises and consented dams	**12.B**	Discharge of hazardous substances, hazardous wastes, specified contaminants, and stormwater; and discharges from industrial or trade premises and consented dams
• Other discharges	**12.C**	Other discharges
A wetland identified in Schedule 9 or any wetland above 800 metres in altitude	**12.1–12.3** **12.A–12.C**	Activities affecting water
Land use on lake or river beds or Regionally Significant Wetlands		
Structures	**13.1** **13.2** **13.3** **13.4**	The use of a structure The erection or placement of a structure The repair, maintenance, extension, alteration, replacement or reconstruction of a structure Demolition or removal of a structure
Disturbance Reclamation Deposition of substances	**13.5**	Alteration of the bed of a lake or river, or of a Regionally Significant Wetland
Vegetation:		
• Introduction of vegetation to the bed of a lake or river, or of a Regionally Significant Wetland	**13.6**	The introduction or planting of vegetation
• Removal of vegetation from the bed of a lake or river, or of a Regionally Significant Wetland	**13.7**	The removal of vegetation
Land use other than in lake or river beds		
The construction of a bore	**14.1**	Bore construction
Drilling	**14.2**	Drilling
Defences against water	**14.3**	The erection, placement, extension, alteration, replacement, reconstruction, demolition or removal of a defence against water
Structures other than defences against water	**14.4**	Structures other than defences against water
Plantation forestry		
Discharges to water or to land in circumstances that may end up in water	**12.C**	Other Discharges
Disturbance of a river bed	**13.5**	Alteration of the bed of a lake or river, or of a Regionally Significant Wetland
Rules that apply to plantation forestry	**Schedule 17**	Schedule of rules that apply to plantation forestry in Otago

12
Rules: Water Take, Use and Management

12.A Discharge of human sewage *[unchanged]*

12.B Discharge of hazardous substances, hazardous wastes, specified contaminants, and stormwater; and discharges from industrial or trade premises and consented dams *[unchanged]*

12.C Other discharges

12.C.A General Rules for section 12.C *[unchanged]*

Note: Rules applying to plantation forestry:

- Refer to the Resource Management National Environmental Standards for Plantation Forestry Regulations 2017: http://www.legislation.govt.nz/regulation/public/2017/0174/latest/whole.html
- Refer to *Schedule 17: Rules applying to plantation forestry in Otago*.
- Rules that apply: 12.C.1.1 (d) (e) (f), excluding (iii); 12.C.2.1; 12.C.2.2; 12.C.2.4; 12.C.3.2.

12.C.0 Prohibited activities: No resource consent will be granted *[unchanged]*

12.C.1 Permitted activities: No resource consent required *[unchanged]*

12.C.2 Restricted discretionary activities: Resource consent required *[unchanged]*

12.C.3 Discretionary activities: Resource consent required *[unchanged]*

13
Rules: Land Use on Lake or River Beds or Regionally Significant Wetlands

13.5 Alteration of the bed of a lake or river, or of a Regionally Significant Wetland

13.5.A General rules for section 13.5 *[unchanged]*

Note: Rules applying to plantation forestry:

- Refer to the Resource Management National Environmental Standards for Plantation Forestry Regulations 2017:
  http://www.legislation.govt.nz/regulation/public/2017/0174/latest/whole.html
- Refer to *Schedule 17: Rules applying to plantation forestry in Otago.*
- Rules that apply: 13.5.1.1 (g) for river crossings;
  13.5.3.1 for any bed disturbance outside spawning seasons as defined in the Fish Spawning Indicator.*

* This is an online mapping tool developed by the Ministry for Primary Industries, which can be found on its website: https://www.mpi.govt.nz/growing-and-harvesting/forestry/national-environmental-standards-for-plantation-forestry/fish-spawning-indicator/

13.5.1 Permitted activities: No resource consent required *[unchanged]*

13.5.2 Restricted discretionary activities: Resource consent required *[unchanged]*

13.5.3 Discretionary activities: Resource consent required *[unchanged]*

Schedules

17 Schedule of rules applying to plantation forestry in Otago

The Resource Management National Environmental Standards for Plantation Forestry Regulations 2017 (NES-PF) came into effect on 1 May 2018. The regulation set out rules for core plantation forestry activities and apply to any forest larger than one hectare, planted specifically for commercial activities and harvest. In general, the standards prevail over rules in regional and district plans, however, in some cases stricter rules in this plan may apply.

The standards are online here:
http://www.legislation.govt.nz/regulation/public/2017/0174/latest/whole.html [3]

In this plan, stricter rules apply that give effect to Objective A1 of the National Policy Statement for Freshwater Management: *To safeguard the life-supporting capacity, ecosystem processes and indigenous species including their associated ecosystems of fresh water, in sustainably managing the use and development of land, and of discharges of contaminants.*

Stricter Water Plan rules are applied:

- in accordance with Regulation 6 of the NES-PF;
- to achieve Objective 7.A.2 in the Water Plan, in accordance with Policy 7.B.2 in the Water Plan; and
- in particular, to protect indigenous non-migratory fish such as galaxiid species, which are classified as threatened and are particularly vulnerable to habitat disturbance and sedimentation.

For this reason, some rules in sections 12.C and 13.5 of this plan prevail over the NES-PF in accordance with Section 43A(1) of the RMA.

A summary of the rules that apply to plantation forestry in Otago is in Table 17.1 below.

[3] Link to *Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017*, accessed 29 March 2018.

Table 17.1 Rules for Plantation Forestry in Otago

National Environmental Standards for Plantation Forestry (Part 2)	Regional Plan: Water for Otago
Subpart 1 – Afforestation All regulations apply	Not applicable.
Subpart 8 – Replanting All regulations apply	
Subpart 2 – Pruning and thinning to waste All regulations apply	**Chapter 12: Rules Water Take, Use & Management** **12.C Other discharges** **12.C.1 Permitted activities: No resource consent required** **12.C.1.1 (d) (e) (f), excluding (iii)** **12.C.2 Restricted discretionary activities: Resource consent required** **12.C.2.1** **12.C.2.2** **12.C.2.4** **12.C.3 Discretionary activities: Resource consent required** **12.C.3.2**
Subpart 3 – Earthworks All regulations apply, except 26 replaced (see opposite and 13.5 rules below in relation to ephemeral rivers)	
Subpart 5 – Forest quarrying All regulations apply, except 56 (1) replaced (see opposite)	
Subpart 6 – Harvesting All regulations apply, except 65 replaced (see opposite).	
Subpart 7 – Mechanical land preparation All regulations apply, except 74 (6) replaced (see opposite)	
Subpart 9 – Ancillary activities All regulations apply, except 90 replaced (see opposite)	

Table continues next page.

Table 17.1 Rules for Plantation Forestry in Otago, cont'd.

National Environmental Standards for Plantation Forestry (Part 2)	Regional Plan: Water for Otago
Subpart 3 – Earthworks All regulations apply (except 26 replaced, see above). In addition to 28(2), 13.5.3.1 rule opposite also applies for ephemeral flow paths	**Chapter 13: Rules: Land Use on Lake or River Beds or Regionally Significant Wetlands** **13.5 Alteration of the bed of a lake or river, or of a Regionally Significant Wetland** **13.5.1 Permitted activities: No resource consent required.** **13.5.1.1 (g)** **13.5.3 Discretionary activities: Resource consent required** **13.5.3.1**
Subpart 4 – River Crossings All regulations apply. In addition to 44, 13.5.1.1(g) rule opposite applies, if this rule cannot be met then 13.5.3.1 applies.	
Subpart 6 – Harvesting All regulations apply. In addition to 68(3), rule 13.5.3.1 opposite applies if logs are to be dragged through streams less than 3 metres wide.	
Subpart 9 – Ancillary activities All regulations apply. In addition to 89, 13.5.1.1(g) rule opposite applies, if this rule cannot be met then 13.5.3.1 applies.	
Subpart 10 – General provisions All regulations apply. In addition to 97, rule 13.5.3.1 opposite also applies to any bed disturbance outside fish spawning seasons as defined by the Fish Spawning Indicator.[4]	

[4] This is an online mapping tool developed by the Ministry for Primary Industries, which can be found on its website: https://www.mpi.govt.nz/growing-and-harvesting/forestry/national-environmental-standards-for-plantation-forestry/fish-spawning-indicator/

Remaining consequential and minor changes

Operative Plan Provision	Operative Plan Page number	Detail of consequential or minor change
Page numbers	All pages	*Update page number*
Table of Contents	Pages vi–xi	*Update table of contents*
Table of Contents for Schedules	Page 20-3	*Update table of contents for Schedules 1-**17***

Attachment 4: How NPS-FM Objective A1 relates to Water Plan rules for alignment with the NES-PF

NPS-FM Objective →	Water Plan Objectives →	Water Plan Policies →	Water Plan Rules
A1(a) To safeguard the life-supporting capacity, ecosystem processes and indigenous species including their associated ecosystems of fresh water, in sustainably managing the use and development of land, and of discharges of contaminants.	**5.3.1** To maintain or enhance the natural and human use values, identified in Schedules 1A, 1B and 1C, that are supported by Otago's lakes and rivers. ↓ **7.A.1** To maintain water quality in Otago lakes, rivers, wetlands, and groundwater, but enhance water quality where it is degraded. **7.A.2** To enable the discharge of water or contaminants to water or land, in a way that maintains water quality and supports natural and human use values, including Kāi Tahu values. **7.A.3** To have individuals and communities manage their discharges to reduce adverse effects, including cumulative effects, on water quality	**5.4.2** In the management of any activity involving surface water, groundwater or the bed or margin of any lake or river, to give priority to avoiding, in preference to remedying or mitigating adverse effects on natural values identified in Schedule 1A; ↓ **7.B.1** Manage the quality of water in Otago lakes, rivers, wetlands and groundwater by: (a) Describing, in Table 15.1 of Schedule 15, characteristics indicative of good quality water; (b) Setting, in Table 15.2 of Schedule 15, receiving water numerical limits and targets for achieving good quality water; and (c) Maintaining, from the dates specified in Schedule 15, good quality water; and (d) Enhancing water quality where it does not meet Schedule 15 limits, to meet those limits by the date specified in the Schedule; and (e) Recognising the differences in the effects and management of point and non-point source discharges; and (f) Recognising discharge effects on groundwater; (g) Promoting the discharge of contaminants to land in preference to water. **7.B.2** Avoid objectionable discharges of water or contaminants to maintain the natural and human use values, including Kāi Tahu values, of Otago lakes, rivers, wetlands, groundwater and open drains and water races that join them. **7.B.3** Allow discharges of water or contaminants to Otago lakes, rivers, wetlands and groundwater that have minor effects or that are short-term discharges with short-term adverse effects.	**12.C.1.1** The discharge of water or any contaminant to water, or onto or into land in circumstances which may result in a contaminant entering water, is a ***permitted activity***, providing: When the discharge: **(d)** including any discharge from a drain or water race, enters water in any lake, river, wetland or the coastal marine area; **(e)** & **(f)** enters water in any drain (or water race) that goes to a lake, river, wetland, or the coastal marine area; the discharge: (i) Does not result in: (1) A conspicuous change in colour or visual clarity; or (2) A noticeable increase in local sedimentation, in the receiving water (ii) Does not have floatable or suspended organic materials; 12.C.2 ***Restricted discretionary*** activities: Resource consent required **12.C.2.1; 12.C.2.2 & 12.C.2.4** ***13.5 Alteration of the bed of a lake or river, or of a Regionally Significant Wetland*** 13.5.1 ***Permitted activities***: No resource consent required. **13.5.1.1 (g)** 13.5.3 ***Discretionary activities***: Resource consent required **13.5.3.1**

Otago Regional Council

Document Id:

Memorandum

To: Policy Committee

From: Pete Ravenscroft; Environmental Resource Scientist – Freshwater

Date: 28/4/2018

Re: Comments on the NES–PF regarding provisions with sediment rules

Activity

This memo provides advice to the Otago Regional Council on the implications of the sediment provisions in the National Environmental Standards for Plantation Forestry (NES-PF).

Otago is home to suite of endemic non-migratory galaxiids, all are threatened with extinction, with four fish in the same threat category as the kakapo. All have unique life–cycle strategies therefore, to understand the effects of sediment, firstly, we need to understand the individual habitat requirements of the species that are located within exotic pine plantations.

Otago is home to the most diverse freshwater fish in New Zealand. This diversity is primarily due to a suite of non-migratory galaxiids. This group of galaxiids can be split into two distinct body-shape categories.

Firstly, the ***Galaxias vulgaris*** species complex is comprised of ten lineages, (and counting), these are cigar-shaped fish. The second group is known as '**pencil-shaped'** galaxiids, of which there are two species in Otago.
Many of these species have restricted geographical distributions and some are confined to a single catchment. These distributional limitations coupled with on-going threats from land

use change (both agricultural and forestry effects), water demands, predation and competition from introduced fish invasions have collectively increased the conservation concerns for all species that make-up this complex.

All Otago non-migratory galaxiids have been assigned some threat status, with the Canterbury and Southern flathead galaxias being the least threatened falling into the "At Risk" category. The threat status of Otago non-migratory galaxiids (Goodman et al 2014) are as follows:

Nationally Critical (common name, criteria and predicted decline)

- **Lowland longjaw galaxias**; 250 -1000 mature adults; predicted decline 10-50%
- **Canterbury mudfish**; predicted decline of 70%
- **Clutha flathead galaxias**; predicted decline of 70%
- **Teviot flathead galaxias**; predicted decline of 70%

Nationally Endangered

- **Central Otago roundhead galaxias**; Total area of occupancy $\leq$ 100ha; predicted decline 50%.
- **Eldon's galaxias**; Criteria Total area of occupancy $\leq$ 10ha; Predicted decline 10-50%.
- **Dusky galaxias**; Criteria Total area of occupancy $\leq$ 10ha; Predicted decline 10-50%.
- **Manuherikia Alpine galaxias**: Total area of occupancy ≤10 ha (0.1 km2), predicted decline 10–50%.
- **Pomahaka galaxias**; Total area of occupancy ≤10 ha (0.1 km2), predicted decline 10–50%.
- **Nevis galaxias**; Total area of occupancy ≤10 ha (0.1 km2), predicted decline 10–50%.

Nationally vulnerable

- **Taieri flathead galaxias**; Criteria Total area of occupancy ≤ 100ha; predicted decline 10- 50%
- **Gollum galaxias**; Criteria ≤500 mature individuals in the largest subpopulation, predicted decline 10–50%

Data Deficient

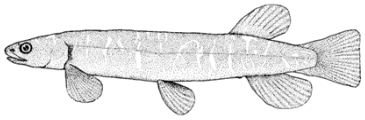
- **Lower Clutha galaxias**

At Risk and Declining

- **Canterbury galaxias**; Total area of occupancy ≤1000 ha (10 km2), predicted decline 10–30%
- **Southern flathead galaxias;** 5000–20 000 mature individuals, predicted decline 10–30%

Seven of these species are currently known to have populations located within exotic plantations:

- Teviot flathead galaxias – 25% located within exotic plantation
- Central Otago roundhead galaxias - <5% located within exotic plantation
- Eldon's galaxias - <25% located within exotic plantation
- Dusky galaxias - < 20% located within exotic plantation
- Lower Clutha galaxias - <5% located within exotic plantation
- Pomahaka galaxias - 5% located within exotic plantation
- Taieri flathead galaxias - <5% located within exotic plantation.



Background

The *Galaxias vulgaris* commonly known as the Canterbury galaxias (formerly referred to as the Common River galaxias) was considered to be distributed throughout rivers of the eastern South Island from Marlborough to Southland and extending into Stewart Island and spilling over into some West Coast river catchments (McDowall 1970, McDowall 1990). The advent of contemporary molecular techniques has been employed to compare genetic variation amongst galaxiid species, and identifying the lineages that may share common ancestors (Allibone et al. 1996, Ling et al. 2001, Waters and Wallis 2001). This has led to a radical change in our perspective on taxonomy of New Zealand non-migratory galaxiids (McDowall 2006b). What was once considered to be a single (McDowall 1970) but highly variable species are now about 12 molecular lineages (Water and Wallis 2001). Among the 12 lineages, two distinct morphological types are evident, described as 'flathead' and 'roundhead' (McDowall and Wallis 1996). Six species have now been formally described and decisions on the taxonomic status of the remaining are yet to be made. Findings from molecular studies suggest that two morphological types stem from the diadromous galaxiid species koaro *Galaxias brevipinnis* (Waters and Wallis 2001 Evolution). Studies analysing the nuclear gene suggest that there has been only one loss of diadromy (McDowall 2010, Waters 2011).

Although species within the *Galaxias vulgaris* complex are closely related and widely distributed throughout Otago, there are few examples of sympatric relationships occurring and even less evidence of hybridisation (Allibone et al. 1996).

Within Otago there are currently 12 recognised lineages (and counting). This diversity has transpired by number of historical geological events. Firstly, Central Otago is an ancient land in comparison to the remainder of New Zealand, and there is a suggestion that this land remained dry during Oligocene period (McDowall 2010, Craw and Norris 2003).

The age of the Central Otago – in addition to glaciations, and the up-rising of numerous mountain ranges splitting/capturing several river catchments have all gone to shape the diversity within the *Galaxias vulgaris* species complex. Different hydro–morphological units within a stream have also provided the opportunity for variability of physical characteristics of individuals within the same species and at times the species within the same stream (Waters et al. 2001 evolution). These factors have all added to the on-going confusion of identification of the species within the *Galaxias vulgaris* complex and may prevent the formal description of the yet to be described species (McDowall and Hewitt 2004).

Localised river catchment capture actions that have directly influenced and shaped the diversity of non-migratory galaxiids in Otago are as follows:

1. The Cardrona River once flowed south into the Kawarau River and now flows north into the Clutha River (Craw and Norris 2003). The distribution of the Clutha flathead galaxias strongly associated with ancestral river direction of the Cardrona (Waters et al. 2001 evolution).

2. Nevis River flows north into the Kawarau River but formerly flowed south into the Nokomai River a tributary of the Mataura River (Waters et al. 2001 evolution).

3. The Von River, which currently flows into Lake Wakatipu, previously flowed south into the Oreti River (Craw and Norris 2003). This river capture event explains the current Gollum and Southern flathead galaxiid populations in the Von River (Burridge et al. 2007 ME, Craw et al. 2007 GEO)

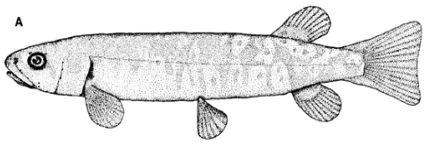
4. The Lochy River was historically connected to the Mataura River which Alpine galaxias are present in (Burridge et al. 2008 MBE).

5. The Taieri River flows south; McDowall (2010) suggests that the Taieri could have once flowed west to join the Manuherikia River. This would explain why the Central Otago roundhead galaxias are to be found within both the Manuherikia and Taieri River catchments. Additional question, were the Shag River and Taieri River systems once connected? If so, then this would explain the presence of Taieri flathead galaxias into the upper Shag catchment.

6. There also may have been a connection between the Manuherikia and Auhriri catchments (McDowall 2010). This explains the presence of a disjunct population of Alpine galaxias, *Galaxias paucispondylus*, located immediately above Falls Dam, Manuherikia catchment.

These river capture events dating back hundreds of thousands of years has provided the opportunity for species to diversify and become distinct species. This allopatric speciation in conjunction with non-migratory galaxiid limited dispersal mechanism (in comparison to diadromous species) has meant the majority of the non-migratory galaxiids species have

relatively restricted geographical distributions. Many are confined to a single river catchment and in-turn this limits the potential number of populations.



Life history strategies – effects of sediment

Non-migratory galaxiids as the name suggests do not migrate from the waterway from where they were hatched. Many other New Zealand freshwater fish undertake some level migration, many move to and from the sea and others move in out of lakes. Therefore, **these galaxiids spawn; live in the same section of water, for their entire lifecycle, many moving as little as 75 metres from where they were hatched.**

Of the seven galaxiid species that are currently known to be located within the boundaries of exotic plantations there is reasonable knowledge of the life-history strategies for five of them. These are as follows; Teviot flathead galaxias, Taieri flathead galaxias, Central Otago roundhead galaxias, Eldon's galaxias and the dusky galaxias. Little is known about the life history of the Pomahaka galaxias, and Lower Clutha galaxias (Although spawning has been recorded for Lower Clutha galaxias).

Central Otago roundhead galaxias and the Taieri flathead galaxias are considered to have a **'fast' life history** in that they can tolerate bed disturbance, are highly fecund, sexually mature younger and smaller, high level of recruitment, faster growing, and have excellent dispersal mechanisms.

Whereas the remaining five have **'slow' life history**, they tend to be located in small stable streams, have low fecundity but produce larger eggs and larvae, poor recruitment, slower growing, longer lived (My work on growth rates hints that dusky galaxias could live 20+yrs).They tend to have poor dispersal, so the mechanisms of connectivity necessary to support a meta-population dynamic are absent. Hence, they are more likely to form more

isolated and fragmented population structures (Jones 2014). **Once lost from a reach of a waterway they are unlikely to recolonise even though the species may still persist higher in the catchment.**

Many of these species only exist in streams that are inaccessible to trout, above natural/human made barriers. These are generally located higher in the catchment, in small first–third order streams. **With the majority occupying water ways less than 1m wide, these are vulnerable to the effects of sediment; as streams of such a size don't receive sufficient flows to move sediment on.**

Sediment that clogs interstitial spaces can affect both the diet and the spawning of the galaxiids. There is a certain amount of plasticity in spawning behaviour across the suite Otago of non-migratory galaxiids, in both spawning site selection and timing. Observations made suggest that the same species of galaxiid can be both a benthic and terrestrial spawners, in the same waterway. However, there are species that are specialised only utilising the same type of habitat. In some circumstances it appears that the same female will utilise the same rock or root mat to spawn, year after year.

Any sediment that is deposited on the banks margins, irrespective of the quantity of the sediment, that has galaxiid eggs present has the ability to destroy the nest. This is because as the sediment dries it draws moisture from the eggs, leaving them desiccated.

Galaxiid diets primarily consists of soft–bodied invertebrates, with mayfly *Deleatidium* spp. making up >85%. If a water body receives sufficient sediment to change the invertebrate community, particularly soft-bodied invertebrates, this can have a flow on effect to body condition of an individual fish; body condition influences fecundity. The reduced productivity of the fish could be catastrophic to those galaxiids that have a 'slow' life history.

In general the effects of sediment on instream values are well understood, the effects are as follows:

- Decreased water clarity - increased sediment loading into a stream will decrease water clarity and reduce visibility for fish seeking food and places to live.

- Damage to fish gills and filter feeding apparatus of invertebrates.

- Changes to the benthic (bottom) structure of the stream/river bed - coarse substrates such as gravels and boulders are replaced/smothered by sand and silt.

- Decreased numbers of invertebrate species from smothering of habitat - invertebrates are a food source to some mahinga kai (e.g., kōura and fish) and diverse invertebrate communities are also an indicator of healthy stream systems.

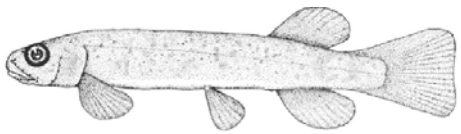
- Decreased algal food supply at base of food chain - sediments can scour algae from rocks, make algae unpalatable, or reduce light to levels where algae cannot grow, because plants need light to photosynthesise.

- Increased contaminants from surrounding land - sediments can transport attached pollutants such as nutrients, bacteria, and toxic chemicals from agriculture and horticulture into our streams.[1]

Summary

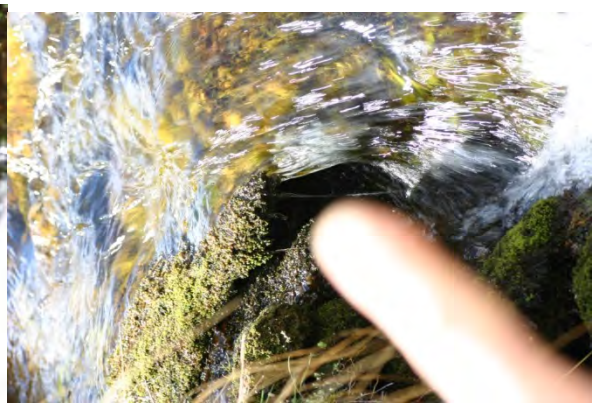
The effects of sediment on non-migratory galaxiids are highly dependent on the amount of sediment the waterway receives. The key issue is that these fish reside in small waterways, generally high in the catchment, which receive limited flushing flows to move any sediment. **Therefore, the impacts of sediment are there all year round irrespective of the time when the sediment was deposited.** At certain levels sediment will affect the diet and spawning behaviour of the galaxiids. This coupled with their life history strategies of the galaxiid can have the potential to be catastrophic, at any time of year not only to that sub-population but also to the overall conservation of the species.

No sediment entering the waterway would be ideal; if this can't be achieved then tighter rules around managing sediment releases into these waterways should be supported. These rules need to be place for the entire year and not just during spawning periods.

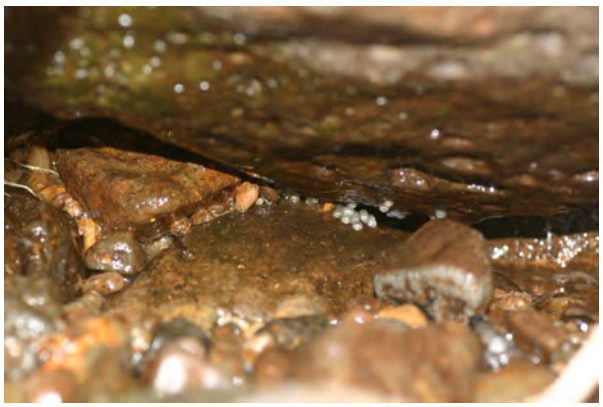


[1] https://www.niwa.co.nz/our-science/freshwater/tools/kaitiaki_tools/impacts/sediment

Appendix 1



Dusky galaxias; clump of eggs and in the root mat of plants along the bank margin. Finger identifying a spawning site under a lip of a rock



Eldon's galaxias eggs under a lip of a rock (out of the water but in the splash zone)

Teviot flathead galaxias – spawning site location and eggs

Taieri flathead galaxias – spawning site under a rock in riffle habitat – clumps of eggs

References

Allibone, R.M.; Crowl, T.A.: Holmes, J.M.; King, T.M.; McDowall, R.M.; Townsend, C.R. and Wallis, G.P. 1996: Isozyme analysis of *Galaxias* species (Teleostei: Galaxiidae) from the Taieri River, South Island, New Zealand: a species complex revealed. *Biological Journal of the Linnean Society 57*: 107-126.

Burridge, C.P.; Craw, D. and Waters, J.M. 2006: River capture, range expansion, and cladogenesis: the genetic signature of freshwater vicariance. *Evolution 60*: 1038-1049.

Burridge, C. P., Craw, D. and Waters, J. M. 2007: Freshwater vicariance, fish phylogeography, and molecular clocks: an *a priori* test of inter-drainage transfer via river capture. *Molecular Ecology 16*: 1883–1895.

Burridge, C.P.; Craw, D.; Fletcher, D. and Waters, J.M. 2008: Geological dates and molecular rates: Fish DNA sheds light on time dependency. *Molecular Biology and Evolution 25*: 624-633.

Craw, D. and Norris, R. 2003: Landforms. In Darby, J.; Fordyce R.E.; Mark, A.; Probert, K.; Townsend, C.R. (eds). *The natural history of southern New Zealand*. University of Otago Press, Dunedin, New Zealand. pp 17-34.

Goodman JM, Dunn NR, Ravenscroft PJ, Allibone RM, Boubee JAT, David BO, Griffiths M, Ling N, Hitchmough RA & Rolfe JR (2014). Conservation status of New Zealand freshwater fish, 2013. *New Zealand Threat Classification Series 7.* Department of Conservation, Wellington, 12 p

Jones, P.E (2104) PhD Thesis Life history variation in the Galaxias vulgaris complex: implications for interactions with invasive salmonids

Ling, N.; Gleeson, D.M.; Willis, K.J. and Binzegger, S.U. 2001: Creating and destroying species: the 'new' biodiversity and evolutionarily significant units among New Zealand's galaxiid fishes. *Journal of Fish Biology 59*: 209-222.

McDowall, R.M. 1970: The galaxiid fishes of New Zealand. *Bulletin of the Museum of Comparative Zoology, Harvard University 139*: 341-432.

McDowall, R.M. 1990. *New Zealand freshwater fishes: A natural history and guide*. Heinemann Reed and MAF Publishing Group, Auckland, New Zealand.

McDowall, R.M. 2006b: The taxonomic status, distribution and identification of the *Galaxias vulgaris* species complex in the eastern/southern South Island and Stewart Island. *NIWA Client Report CHCDOC2006-081 prepared for Department of Conservation.* NIWA, Christchurch, New Zealand.

Waters, J.M., Craw, D., Youngson, J.H. and Wallis G.P. 2001a: Genes meet geology: fish phylogeographic pattern reflects ancient, rather than modern, drainage connections. *Evolution 55*: 1844 – 1851.

Waters, J.M.; Esa, Y.B.; Wallis, G.P. 2001b: Genetic and morphological evidence for reproductive isolation between sympatric populations of Galaxias (Teleostei: Galaxiidae) in South Island, New Zealand. *Biological Journal of the Linnean Society 73*: 287-298.

Waters, J.M. and Wallis, G.P. 2001a: Cladogenesis and loss of the marine life-history phase in freshwater galaxiid fishes (Osmeriformes: Galaxiidae). *Evolution 55*: 587-597.
Waters, J.M. and Wallis, G.P. 2001b: Mitochondrial DNA phylogenetics of the *Galaxias vulgaris* complex from the South Island, New Zealand: rapid radiation of a species flock. *Journal of Fish Biology 58*: 1166 – 1180.

Waters, J.M. and Craw, D. 2008: Evolution and biogeography of New Zealand's longjaw galaxiids (Osmeriformes: Galaxiidae): the genetic effects of glaciation and mountain building. *Freshwater Biology 53*: 521-534.

Waters, J.M.; Rowe, D.L.; Burridge, C.P. and Wallis G.P. 2010: Gene Trees versus Species Trees: Reassessing Life-History Evolution in a Freshwater Fish Radiation. *Systematic Biology 59*: 504-517.

AIR QUALITY STRATEGY FOR OTAGO

Otago Regional Council

Otago Regional Council

70 Stafford St, Dunedin
0800 474 082
www.orc.govt.nz

Otago: Clean Air Everywhere

Ten years ago, the Otago Regional Council developed a plan to manage air quality in Otago. Despite a significant reduction in emissions, the national standards for air quality have not been achieved.

This strategy revisits ORC's approach to ensure that, in time, air quality issues are resolved and air is safe to breathe for everyone, and at any time in Otago

GUIDING PRINCIPLES

- Locally focused
- Community centered
- Holistic
- Collaborative

DESIRED OUTCOMES

1. Cleaner heating

2. Reduced reliance on outdoor burning

3. No nuisance from emissions

4. No toxic emissions impacting on people and ecosystems

CONTEXT

Air quality in Otago is very good most of the year. However, areas such as Alexandra, Arrowtown, Clyde, Cromwell, Milton and Mosgiel experience high levels of particulate matters (PM10) in winter when chimney emissions peak.

Research shows that particulate matters affect respiratory and cardiovascular health, especially in the elderly, the very young, and people with pre-existing conditions.

TO ACHIEVE THESE OUTCOMES ORC WILL:

Monitor and research

- Continue monitoring air quality in Otago
- Assess, with the help of Southern District Health Board, the impact of air quality on public health in Otago
- Improve understanding of the connection between housing quality, air quality and human health
- Research the environmental impact of chemical use in Otago

Regulate

- Review policies and rules on emissions from new buildings and outdoor burning within and around urban areas

Support local communities

- Involve local communities in developing tailored programs for good air quality
- Provide information on air quality issues and good practices
- Provide financial support to assist with the transition towards cleaner heating

Collaborate

- Collaborate with city and district councils to prevent nuisance effects, and manage the effects of urban growth on air quality
- Partner with central government and other regional councils to promote affordable clean heating technologies

CONTENTS

ABOUT THIS STRATEGY

This strategy sets out the approach that Otago Regional Council (ORC) will take to make sure we have good quality air in our region. It's a starting point for a series of conversations we plan to have with stakeholders and our community.

We imagine that this strategy will evolve as:

- We improve our knowledge about the problems we face
- Our regional stakeholders become more invested in the process
- National air quality legislation is reviewed (due to be completed in 2018)

AIR QUALITY IN OTAGO

Air quality affects everyone in Otago. Poor air quality impacts on our health. We want to fix the problems we have with our region's air quality so everyone can safely breathe our air at any time of the year.

Air quality is important to everyone. Pollutants released into the air can cause unpleasant smells and poor visibility, and affect our health in many ways.

Air pollution can come from many sources, both natural and human-made. Research has shown us that once inhaled, air pollutants can adversely affect our health, particularly if you are elderly, very young or have an existing respiratory condition.

In 2004 our government developed national standards for air quality to guarantee a minimum level of health protection for all New Zealanders. In Otago we enjoy very good quality air for most of the year. In winter, when we burn wood or coal for home heating, chimney emissions peak. As a result, our ambient (or outdoor) air quality is often degraded, particularly in areas like Alexandra, Arrowtown, Clyde, Cromwell, Milton and Mosgiel.

Ten years ago ORC developed our first air quality strategy aimed at meeting the national air quality standards. Since then, our communities have worked to reduce emissions in the towns with air quality problems. Despite this, emissions have not reduced enough to meet the national standards or the World Health Organisation standards for human health. We need to do more.

We need to revisit our approach to managing air quality to make sure that we address the issues and our region's air is safe to breathe by anyone at any time.

KEY ISSUES

ISSUE	EFFECT	DESIRED OUTCOME
Our communities rely heavily on burning wood and coal to heat our homes Wood/coal fires and burners are the heating of choice for many Otago households. Home-heating smoke emissions are the source of most of our air pollution. The amount of pollution created is influenced by: • How many households use fires/burners in an area • The type of burner used and how efficient it is • How the burner is operated and maintained • What type of fuel is used and how much This issue is also influenced by the: • Frequency of inversion layers in Central Otago • Higher cost of clean fuels, such as electricity • Age of houses in Otago, with many old and badly insulated • Rapid growth of Central Otago towns situated in areas where temperature inversions occur	**People are exposed to harmful levels of air pollutants in some of our towns.** We can achieve clean air throughout Otago if cleaner heating options are widely adopted in our communities. We know that continuing to use solid fuel burners (that meet current national wood burner design standards) will not deliver clean enough heating. Our communities will need to go a step further and choose low-impact heating. Low-impact heating includes: • Ultra-low emission burners • Electricity or gas heating • Pellet fires • Emission control devices • Other innovative low-emission heating options	**Adopt cleaner heating** **Short-to-medium term goal:** we want to support our communities to reduce the emissions coming from current heating to levels that are as low as possible. **Long-term goal:** we want to help our communities move towards using low-impact heating so health guidelines are met.
Outdoor burning is still common in Otago to remove green waste and diseased material, and to manage pasture.	Outdoor burning adds to the overall pollution levels in an area. It produces smoke that can be a nuisance for residents and visitors.	Reduce reliance on outdoor burning.
Some people do not manage their discharges to air properly and this can impact on their neighbours. Earthworks, roads and other land uses can generate dust.	Residents and visitors can be affected by nuisance smoke, smells or dust. Dust can add to the overall pollution levels in an area.	No nuisance from emissions and dust.
Chemical spraying is widely used in Otago to manage pests.	Airborne chemicals can have toxic impacts beyond their intended purpose. Pesticide drift can affect neighbouring crops and ecosystems and some pesticides are damaging to important ecosystem services such as pollinators.	No toxic emissions hurting people and ecosystems.

ORC'S VISION FOR AIR QUALITY

DELIVERING GOOD AIR QUALITY

LOCALLY FOCUSED

ORC will:

- Develop local air quality programmes that consider the local context/needs

COMMUNITY CENTERED

ORC will:

- Engage local communities in finding practical solutions
- Harness the community's pride and energy
- Support communities and individuals to reduce pollution

HOLISTIC

ORC will:

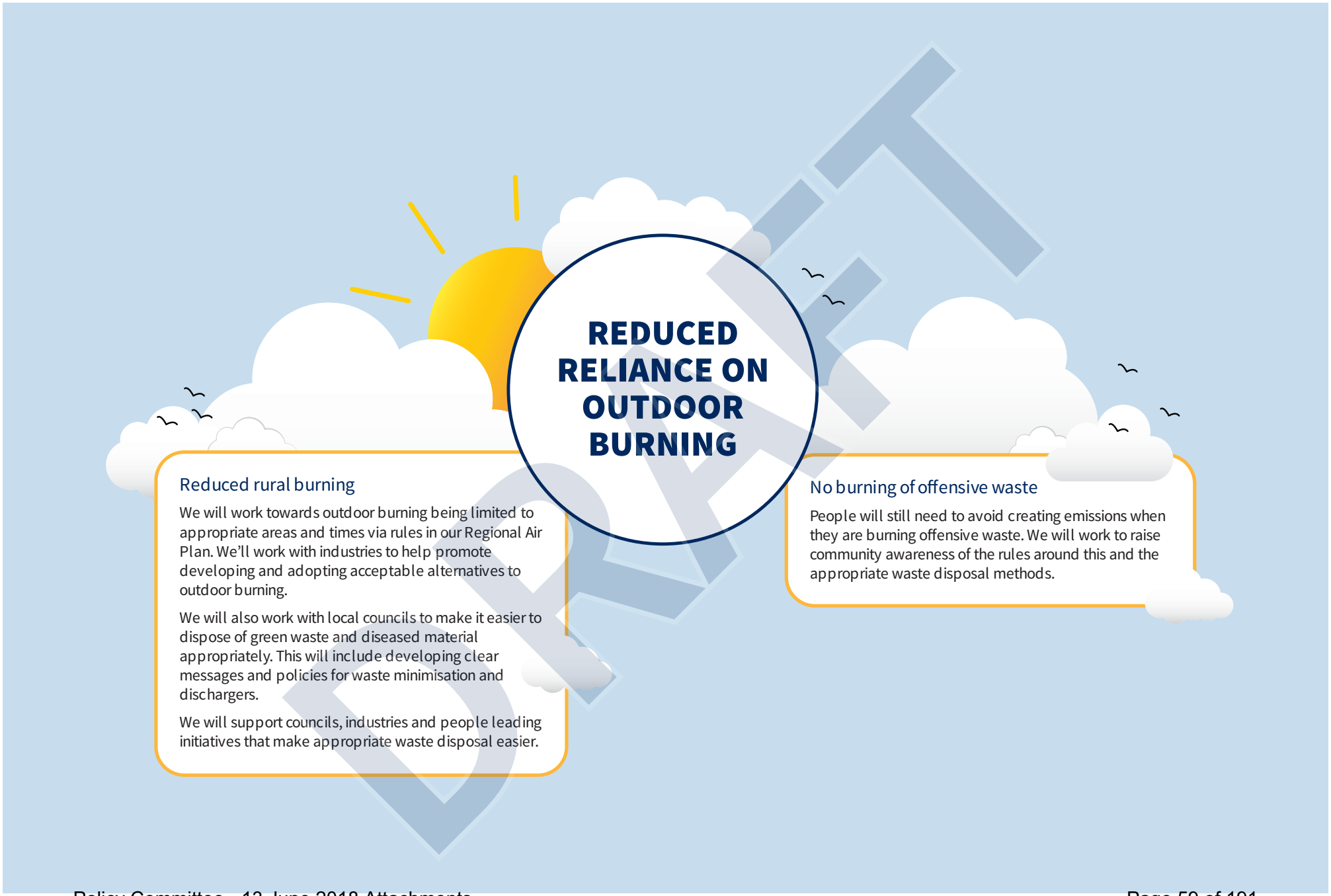
- Liaise with other agencies to integrate our energy policies, urban development, building design, and air quality programs
- Manage all sources of emissions
- Use a mix of regulatory and non-regulatory tools

COLLABORATIVE

ORC will:

- Share our knowledge and resources with other regional councils and central government
- Work alongside territorial authorities, iwi, industries and community groups to enhance the effectiveness of our air quality programs


Upgrades to low impact heating
ORC will support transition to low impact heating by:
• Supporting monitoring and research in low impact heating and informing people about their options
• Promoting upgrades to low impact heating
• Advocating, promoting and supporting what will facilitate the uptake of low impact heating (e.g. home insulation or cheaper electricity). ORC will work with other regional councils, with central government and with industries.
CLEANER HEATING
No smelly or smoky chimneys
We will focus our efforts on the problem areas (i.e. polluted areas, offensive emissions and vulnerable populations) and support people to reduce their emissions. We'll do this by working alongside community groups, agencies and local councils to offer effective assistance, while still requiring that our regional rules be complied with.
We will develop local air quality programs in areas with air pollution issues.
These programs will:
• Combine and align education/information and rule enforcement activities
• Involve the local community, local councils and other potential partners (e.g. suppliers and other businesses) in designing solutions tailored to their communities
Low impact heating in all new homes
We will work with local councils and central government to ensure the legislation is consistent and requires low-impact heating to be installed in all new homes (especially in problem areas and areas where urban growth creates air pollution risks).
We'll encourage new housing developments to look at offering appropriate community heating systems.
DRAFT


REDUCED RELIANCE ON OUTDOOR BURNING
Reduced rural burning
We will work towards outdoor burning being limited to appropriate areas and times via rules in our Regional Air Plan. We'll work with industries to help promote developing and adopting acceptable alternatives to outdoor burning.
We will also work with local councils to make it easier to dispose of green waste and diseased material appropriately. This will include developing clear messages and policies for waste minimisation and dischargers.
We will support councils, industries and people leading initiatives that make appropriate waste disposal easier.
No burning of offensive waste
People will still need to avoid creating emissions when they are burning offensive waste. We will work to raise community awareness of the rules around this and the appropriate waste disposal methods.


New activities are not a nuisance
We will advocate for adequate controls in district plans and other relevant legislation to prevent nuisance activities, while continuing to respond to any complaints we receive about nuisances.
NO NUISANCE FROM EMISSIONS & DUST
Dust is effectively controlled
We will advocate for effective dust control provisions in district plans.
Reducing outdoor burning (including in cities)
We will tighten up the rules on the use of outdoor fires in our region's cities and residential areas. We'll work with suppliers/industry to make sure adequately-designed outdoor fires are installed in these areas.


NO TOXIC EMISSIONS HURTING PEOPLE AND ECOSYSTEMS
Toxicity risks are understood
We will monitor new research on the impact of chemical use and work to raise awareness in our communities about chemical risk.
Harmful chemicals are used sparingly, in a targeted and controlled way
We will support and promote changes to the way people use harmful chemicals and inform our communities about less harmful alternatives that are available.

WHAT DOES ORC PROPOSE TO DO?

Emissions from domestic heating

Supporting transition towards cleaner heating	TASKS	TIME
Involve local communities in developing tailored programs for good air quality		From 2020
Provide information on air quality issues, and good practices		Ongoing
Provide financial support to assist with the transition towards cleaner heating		Ongoing
Partner with central government and other regional councils to promote affordable clean heating technologies		From 2020

Low impact heating in new homes	
Review policies and rules on emissions from new buildings within and around urban areas	Within 3 years
Collaborate with city and district councils to manage the effects of urban growth on air quality	From 2020

Outdoor burning	TASKS	TIME
Review policies and rules on outdoor burning within and around urban areas		Within 3 years

No nuisance from emissions	TASKS	TIME
Collaborate with city and district councils to prevent nuisance effects from emissions		From 2020

No toxic emissions impacting on people and ecosystems	TASKS	TIME
Research the environmental impact of chemical use in Otago		Within 10 years

Monitoring and Research	TASKS	TIME
Continue monitoring air quality in Otago, including: • Particulate matters in key Otago towns • Emissions in key Otago towns • Screening other pollutants of concern		Ongoing Ongoing Every 5 years Every 5 years
Assess, with the help of SDHB, the impact of air quality on public health in Otago		From 2019
Improve understanding of the connection between housing quality, air quality and human health		Within 2 years

APPENDIX 1 – SUMMARY OF FEEDBACK

General approach

Submitter	Feedback received
Alexandra MacMillan	Supports general approach - in particular its holistic and partnerships aspects
CDC	The strategy is consistent with the approach ORC has taken over the last 10 year while a more proactive approach is required
Federated Farmers	Support the principles of the air quality strategy; Support the emphasis on domestic heating emissions in towns - rural areas should not be subjected to the same requirements as towns as the lowest population density means that solid fuel burners do not result in the same environmental effects
Southern District Health Board	We support the current approach where communities are more able to relate their health to air quality in the affected airsheds. We believe community empowerment will be more successful than a punitive one.
Kai Tahu	Generally supportive of the air quality strategy
QLDC	QLDC supports collaborative actions between the Otago Regional Council and Otago's Territorial Authorities, in order to prevent nuisance effects of air pollution and manage the effects of urban growth on air quality.
Shaping our Future	Support the development of a comprehensive air quality plans and the 4 goals of the strategy
lapickard	Support
PeterB	Great strategies. Well done to authors. Appreciate your excellent document and vision.

Vision

Submitter	Feedback received
CDC	Supports the vision: "Clean air everywhere"; goals are not as ambitious or specific than the Air Plan's objectives; they should refer back to the NESAQ standards
Kai Tahu	Kāi Tahu ki Otago desires that wāhi tūpuna are free from odour, visual and other pollutants. The Strategy does not recognise impacts on wāhi tūpuna
Kai Tahu	Air quality meets desired cultural outcomes – e.g. for whānau, wāhi tūpuna and mahika kai
Kai Tahu	Kāi Tahu seeks an emphasis on energy efficiency achieved through insulating homes. This could be added to the outcomes in the short to medium term goals.
QLDC	Review the strategy's overall statement that "in time, air quality will be resolved" to include measurable air quality indicators and a realistic timeframe

Submitter	Feedback received
QLDC	Outline context and timeline within the wider policy approach for air quality management, in particular how it seeks to give effect to the NESAQ
QLDC	Desired outcomes are stated in an ambiguous way
Shaping our Future	Support the development of a comprehensive air quality plans and the 4 goals of the strategy
PeterB	Clear rural views from higher ground viewing sites. Our beautiful landscape should not be marred by smudges of smoke lasting for hours and drifting several kilometres. Visual impact is important in rural vistas. Think of Saddle Hill's iconic shape being degraded by quarrying. We should not have to experience smoke in our nose or eyes to be offended by landscapes spoiled by rural burnups.
RebeccaT	Meet all national standards for air quality.
Alan Thomas	Having a cleaner air also supports the growing trend in Otago of having clear night skies. (Much is being done to reduce light pollution but smoke pollution is also a problem for establishing a clear night sky.)

Principles

Submitter	Feedback received
Southern District Health Board	We support the current approach where communities are more able to relate their health to air quality in the affected airsheds. We believe community empowerment will be more successful thant a punitive one.
QLDC	QLDC supports collaborative actions between the Otago Regional Council and Otago's Territorial Authorities, in order to prevent nuisance effects of air pollution and manage the effects of urban growth on air quality.

Issues and gaps

Submitter	Feedback received
Alexandra MacMillan	Emphasise the place of large organisations and businesses/industry leading the way. There are going to be schools, hospitals and industries who are also contributing to this problem, especially by burning coal – unlike the cold housing issue, there's really no impediment to requiring theses emitters to shift to high efficiency, sustainable, healthy heating – e.g. shifting boilers to pellet or woodchip.
CDC	Vehicle emissions = gap - the strategy should identify the full range of challenges for improving air quality and outline a program of work to address those challenges
Uchida, Ulf	Address emissions from ships in Port
Kai Tahu	Kāi Tahu ki Otago desires that wāhi tūpuna are free from odour, visual and other pollutants. The Strategy does not recognise impacts on wāhi tūpuna
Kai Tahu	Industrial discharges are not addressed in the key issues section of the document. Industrial discharges can affect residential areas, wāhi tūpuna and mahika kai. Similarly, agrochemical spray drift has the potential to cause adverse effects on people's

Submitter	Feedback received
	health and wāhi tūpuna. Discharges from crematoriums, if located in close proximity to mahika kai, food outlets and wāhi tūpuna are culturally offensive.
Cosy Homes Trust	Agrees with Issue 1 and commends ORC for acknowledging that uninsulated and underinsulated homes are contributing to poor air quality
QLDC	The effects of traffic congestion on air quality are not specifically addressed
lostkiwi	Move more freight on rail. Getting trucks off road = less emissions = better air
Delia	No gaps in the goals
tgardner	No gaps in the goals
SWEDE	No gaps in the goals
Hamish_Edwards	No gaps in the goals
snowman7	No gaps in the goals
bewarm	No gaps in the goals
PeterB	Clear rural views from higher ground viewing sites. Our beautiful landscape should not be marred by smudges of smoke lasting for hours and drifting several kilometres. Visual impact is important in rural vistas. Think of Saddle Hill's iconic shape being degraded by quarrying. We should not have to experience smoke in our nose or eyes to be offended by landscapes spoiled by rural burnups.
Alan Thomas	Having a cleaner air also supports the growing trend in Otago of having clear night skies. (Much is being done to reduce light pollution but smoke pollution is also a problem for establishing a clear night sky.)

Cleaner Heating

Submitter	Feedback received
Alexandra MacMillan	Identify the crucial partnership needed to deal with housing and heating together; Make more explicit that ORC will develop a funding and regulation partnership with the DHBs/PHU and national government to ensure that housing improvements and home heating are dealt with well and together
CDC	Support further research on the impacts of poor air quality on public health, particularly if it includes the development of appropriate tools to gauge the health effects of poor air quality in small towns
Federated Farmers	Support the focus of this issue, the description of effects and the way the desired outcome has been divided into a short to medium and long term component; support the proposed short term actions aimed at this issue; support council focusing on upgrading heating in new homes, and focusing on problem areas as priorities
Stewart, Gordon	More focus on education / information to promote people using dry wood
Arrowtown Village Association	Requests higher co-operation from ORC to assist in increased community education and information

Submitter	Feedback received
Southern District Health Board	We support the current approach where communities are more able to relate their health to air quality in the affected airsheds. We believe community empowerment will be more successful than a punitive one.
Kai Tahu	#requests the ORC educate residents on how to create an energy efficient indoor environment #Suggests that financial support provided via Clean Heat Clean Air could be extended beyond the 5 air zones.
Kai Tahu	Include Iwi in conversations with communities about resolving smelly or smoky chimneys.
Kai Tahu	Kāi Tahu supports the position of some Dunedin City Council councillors to phase out the use of coal.
DCC	Invest in transitioning away from the use of coal as a domestic heating source
Cosy Homes Trust	The long term goal of "moving towards using low impact heating" is too weak and suggests that any improvement in low impact heating choice would satisfy this goal
Cosy Homes Trust	Notes large body of evidence on clean heating options
Cosy Homes Trust	Supports "promoting upgrades to low impact heating" - promotional efforts will only work alongside financial resources
Cosy Homes Trust	Pleased to see ORC acknowledging that insulation and the cost of electricity have an impact on air quality
Cosy Homes Trust	Supports goal of requiring low-impact heating in all new homes in the region, and would be supportive of ensuring strong legislation is in place in problem areas
Generation Zero	Supports the Otago Regional Council considering a ban on burning coal for domestic purposes.
QLDC	QLDC supports the recognition that there is rapid growth in Central Otago towns situated where air inversions occur. It would be useful if this recognition could be expanded to acknowledge Wanaka and other towns in the Queenstown Lakes District where inversions also contribute to lower air quality at certain times of year.
Hannah Clowes	The strategy does not do enough to influence effective change as soon as possible. 1. Wood burners should be banned from all new residential builds, effective as soon as practicable. 2. Prohibit outdoor rural burning - the resultant pollution effects are simply too great. Green waste should be composted.
Delia	Ban coal for domestic heating. Coal needs to stay in the ground.
RebeccaT	ORC is not doing enough to address air quality in Otago. ORC needs to enforce immediately that all Otago households replace fireplaces that emit too much smoke with clean/low impact heating options.
Alan Thomas	In our house we have two heat pumps and a low emission wood burner. We use dry wood but tend to use the heat pump for most days unless really cold. The wood burner is best used when a steady wind is blowing as there is less risk of our smoke being trapped in the local inversion layer. This practice should be encouraged for all residents.

Outdoor burning

Submitter	Feedback received
Federated Farmers	Request a focus on areas where there is an identified air quality issues, or where the burning has significant effects, by amending the wording of the issue, effect and desired outcome; otherwise support council working with industry to address issues
Kai Tahu	Kāi Tahu supports restrictions on 'backyard' burning, which can impact wāhi tūpuna.
Hannah Clowes	The strategy does not do enough to influence effective change as soon as possible. 1. Wood burners should be banned from all new residential builds, effective as soon as practicable. 2. Prohibit outdoor rural burning - the resultant pollution effects are simply too great. Green waste should be composted.
Hamish_Edwards	A total ban on any form of Burn Off of rubbish including green waste, especially for property developers. They should be made to bury it onsite or take it to a land fill.
bewarm	The burning of green materials in the open in rural areas which create offensive smoke should be jumped on! This is happening too much in Central Otago. Golf courses seem to be particularly bad. more education to leave dead prunings etc for 12 months before burning.
PeterB	Also, there does not seem to be a connection between your strategy and the issuing of fire permits. Who monitors non-permitted rural fires? There should be active discouragement of using fires as part of a business process to dispose of waste. Especially in horticulture.
Alan Thomas	We occasionally notice large rubbish(mainly foliage) fires on the outskirts of town. The smoke from these is often captured in the inversion layer. These fires can last several days. They are no doubt a good way to remove rubbish but should only be permitted on windy days.

Nuisance

Submitter	Feedback received
CDC	There should be recognition of the extensive network of unsealed roads in Otago and the cost/benefit of suppressing dust from these - suggested measure would be significant setbacks from unsealed roads in district plan provisions
Federated Farmers	Agree that practical steps should be taken to reduce nuisance and negative impacts on neighbours - but would like "desired outcome" to be changed to: "Nuisance from emissions and dust is minimised"; support the tightening up of rules on the use of outdoor fires in the region's cities and residential areas; support council promoting the desired outcomes of the air strategy through each district planning processes
QLDC	The Strategy states that the Otago Regional Council "will advocate for adequate controls in district plans and other relevant legislation to prevent nuisance activities" (p.12). QLDC supports this action, as it seeks to ensure that submissions are made on relevant city and district plans to ensure that they are not inconsistent with any higher level plans for the management of air quality.

Toxic emissions

Submitter	Feedback received
Federated Farmers	Agree with the adverse effects as stated; support the proposed actions and believe the impacts of these practices can be significantly reduced through the adoption and refinement of good practices; request change to the desired outcome as follows: "Toxic emissions do not cause harm to people or ecosystems"
Kai Tahu	toxic emissions are also culturally offensive when they adversely impact wāhi tūpuna.
QLDC	Supports the recognition of the effect of spraying from horticulture and viticulture activities and supports the strategy's requirement that spraying occurs in a targeted and controlled way

Implementation - General

Submitter	Feedback received
Alexandra MacMillan	Identify the crucial partnership needed to deal with housing and heating together; Make more explicit that ORC will develop a funding and regulation partnership with the DHBs/PHU and national government to ensure that housing improvements and home heating are dealt with well and together
CDC	Actions not tangible and specific enough: All key elements/tools and methods should be identified and explained Too much focus on advocacy rather than tangible actions
CDC	Support further research on the impacts of poor air quality on public health, particularly if it includes the development of appropriate tools to gauge the health effects of poor air quality in small towns
CDC	Classify Milton in Air Zone 1; and until then, investigate how the rules and other methods which apply to other Air Zone 1 towns can be applied to Milton
Stewart, Gordon	More focus on education / information to promote people using dry wood
Arrowtown Village Association	Requests higher co-operation from ORC to assist in increased community education and information
Arrowtown Village Association	Commence strong enforcement action for air quality breaches
Southern District Health Board	We support the current approach where communities are more able to relate their health to air quality in the affected airsheds. We believe community empowerment will be more successful thant a punitive one.
Kai Tahu	#requests the ORC educate residents on how to create an energy efficient indoor environment #Suggests that financial support provided via Clean Heat Clean Air could be extended beyond the 5 air zones.
Kai Tahu	Include Iwi in conversations with communities about resolving smelly or smoky chimneys.
Kai Tahu	Kāi Tahu would like to see ORC educate Otago residents on how to create a healthy, energy efficient indoor environment that requires less fuel/energy to heat. This includes disseminating information about behavioural interventions and funding sources

Submitter	Feedback received
	for clean heating. Education activities will support uptake of low-impact heating and reduce emissions related to household heating
Kai Tahu	Regarding the action point 'Involve local communities in developing tailored programmes for air quality' Kāi Tahu wishes to be consulted early on in any research on local air quality or proposals to address it. Are 'local communities' townships or smaller scale?
Kai Tahu	Kāi Tahu desires to see targeted support for energy efficiency via insulation
Kai Tahu	Regarding the action point 'Research the environmental impact of chemical use in Otago' Kāi Tahu seeks that the cultural impact of chemical use also be addressed
DCC	The DCC supports the work being done by the ORC to improve air quality and the continuation of the clean heat clean air programme
Cosy Homes Trust	Supports "promoting upgrades to low impact heating" - promotional efforts will only work alongside financial resources
Cosy Homes Trust	Encourage ORC to utilise existing community organisations to assist in the development and delivery of tailored local programs
Cosy Homes Trust	Agrees provision of information should continue and encourages ORC to ensure it is provided through multiple media and multiple formats/voices that target and engage the wide variety of groups in Otago in ways that are culturally appropriate
Cosy Homes Trust	More work needs to be done with regard to financial support - e.g. not just air zone towns, and shorter timeframes
Cosy Homes Trust	Commit to being a local third-party funder for the Government's Warm Up NZ subsidised insulation/clean heating programme. Cost: $250,000/year for two to three years. Outcome: At least 300 homes per year insulated and/or have a clean heating appliance installed.
Cosy Homes Trust	Connect residents building new homes with independent advice on energy efficiency. Cost: there is no cost if Council leverages other resources in the community. Outcome: new homes constructed in the region are built to a higher standard for energy efficiency and low-impact heating.
Cosy Homes Trust	Fund the Cosy Homes Trust to coordinate/delivery healthy homes air work in the region. Cost: $45,000/year. Outcome: Otago residents are educated on how to make their homes healthier and more efficient, more financial resources are available for them to achieve this, and the resources work together efficiently.
Generation Zero	Supports Otago Regional Councils' clean air programme and requests that additional funding be considered for ancillary community initiatives e.g. Cosy Homes Trust.
QLDC	QLDC supports collaborative actions between the Otago Regional Council and Otago's Territorial Authorities, in order to prevent nuisance effects of air pollution and manage the effects of urban growth on air quality.
QLDC	The Strategy states that the Otago Regional Council "will advocate for adequate controls in district plans and other relevant legislation to prevent nuisance activities" (p.12). QLDC supports this action, as it seeks to ensure that submissions are made on relevant city and district plans to ensure that they are not inconsistent with any higher level plans for the management of air quality.
QLDC	Suggests a shorter timeframe for the review of policies and rules on emissions from new buildings and outdoor burning within urban areas

Submitter	Feedback received
QLDC	Supports the review of policies and rules on outdoor burning within and around urban areas. Those rules and policies should be relevant to effectively assess and control outdoor burning activities within the rapidly expanding urban and peri-urban areas of the district
QLDC	The planned collaboration between QLDC and the ORC to manage the effects of urban growth on air quality needs to commence as soon as practicable
QLDC	It would be useful if the strategy or an accompanying document would give more guidance on consent conditions that would ensure that the desired outcomes of improving air quality and clean air everywhere would be achieved
Shaping our Future	Review timeline to commence implementation earlier: the Shaping our Future's reports show a desire for action from within the communities to address air quality, research and take action towards improvement
lostkiwi	Who cares you can't do anything about it anyway short off banning fire places and paying for an alternative source per house, there is nothing you can do about it.
tgardner	Have a long term vision of incorporating zero emissions public transport options within towns within Otago
SWEDE	Active implementation, get on with the job, show backbone and leadership, and enforce legislation
hamish.dani	Investigate heat pump generation from Clutha river to heat Alexandra and Clyde
hamish.dani	2. Air quality has been bad for years with little improvement. Subsidise heat pumps and pellet burners.
snowman7	A lot more could be done to improve air quality in Otago. ORC should take more of a lead in inspiring people that we can have clean air winters. It would be better if ORC started working with communities now to develop programmes for good air quality, rather than waiting till 2020. If we are to change the air quality, ORC needs to start collaborating with the local community to get them on board, rather than imposing things from above.
PeterB	Would also like to raise idea of "citizen monitors". Local people who could alert the ORC in real time about possible clean air violations.
PeterB	Also, there does not seem to be a connection between your strategy and the issuing of fire permits. Who monitors non-permitted rural fires? There should be active discouragement of using fires as part of a business process to dispose of waste. Especially in horticulture.
RebeccaT	ORC is not doing enough to address air quality in Otago. ORC needs to enforce immediately that all Otago households replace fireplaces that emit too much smoke with clean/low impact heating options.
Alan Thomas	Possibly more polite inspection of really smoky fires in winter could reduce the pollution problem.
Alan Thomas	I suggest outdoor fires are only lit following receipt of a cellphone message or app to advise when to light and for how many hours so they do not burn during conditions favorable to the formation of an inversion layer. That the intention to light such fires should be registered with ORC before permission is given to light them, this should include high country burn-offs. (If these are in fact even necessary)

Other matters

Submitter	Feedback received
CDC	The strategy should be backed up by easily accessible, easy to understand, and up-to-date monitoring data and reports, which illustrate the poor state of air quality during winter in some Otago towns -information about the aier quality experienced in some Otago towns and the lack of progress in terms of achieving NESAQ requirements is very difficult to locate
CDC	Align the "Key Issues" headings with the content beneath
Southern District Health Board	We would also like to draw attention to the south island district health boards position statment on air quality that is soon to be released.
Kai Tahu	Are 'emissions' in the Strategy limited to PM10?
QLDC	Outline context and timeline within the wider policy approach for air quality management, in particular how it seeks to give effect to the NESAQ
QLDC	Incorporate the relevant quantitative data for air quality indicators and provide link to the strategy's goals
QLDC	It would be useful oif the strategy or an accompanying document would give more guidance on consent conditions that would ensure that the desired outcomes of improving air quality and clean air everywhere would be achieved

Air plan: policies and rules

Submitter	Feedback received
CDC	Classify Milton in Air Zone 1; and until then, investigate how the rules and other methods which apply to other Air Zone 1 towns can be applied to Milton
Federated Farmers	Generally believe the operative air plan works from a rural perspective, and support its effects-based approach esp. as relates to outdoor burning
Uchida, Ulf	Address emissions from ships in Port
Stewart, Gordon	The days of coals may be over
Southern District Health Board	We support strenthening of emission standards in affected airsheds as well as banning coal as a form of heating.
Kai Tahu	Kāi Tahu supports the position of some Dunedin City Council councillors to phase out the use of coal.
DCC	Invest in transitioning away from the use of coal as a domestic heating source
Cosy Homes Trust	Supports goal of requiring low-impact heating in all new homes in the region, and would be supportive of ensuring strong legislation is in place in problem areas
Generation Zero	Supports the Otago Regional Council considering a ban on burning coal for domestic purposes.
Hannah Clowes	The strategy does not do enough to influence effective change as soon as possible. 1. Wood burners should be banned from all new residential builds, effective as soon as practicable. 2. Prohibit outdoor rural burning - the resultant pollution effects are simply too great. Green waste should be composted.

Submitter	Feedback received
Delia	Ban coal for domestic heating. Coal needs to stay in the ground.
Hamish_Edwards	A total ban on any form of Burn Off of rubbish including green waste, especially for property developers. They should be made to bury it onsite or take it to a land fill.

Appendix 3 – Recommended changes

Recommended change	Rationale
Air Quality Strategy on a page (p. 3)	
Introduction: "This strategy revisits ORC's approach to effectively address air quality issues and ensure that~~, in time, air quality issues are resolved and~~ air is safe to breathe for everyone, and at any time in Otago" To achieve these outcomes ORC will: ***Regulate*** Add "Consider coal banning as part of a full review of the Regional Plan: Air" ***Support local communities*** "Provide financial support to assist with the transition towards cleaner heating, improved energy efficiency and home insulation"	Stronger wording Aligns with LTP document and feedback received Better recognition of the link between air quality, energy efficiency and housing
About this strategy (p. 5)	
"This strategy focuses on air quality for good human health: it provides a reference point and key directions to develop the road map to meet the national standards for air quality (NESAQ 2004), and to give effect to the Regional Policy Statement for Otago. It's a starting point for a series of conversations we plan to have with stakeholders and our community. We imagine that this strategy will evolve as: • We improve our knowledge about the problems we face • Our regional stakeholders become more invested in the process • National air quality legislation is reviewed (due to be completed in 2018)	Clarifies scope of the strategy and provides better link with resource management documents

Air quality supports other important values: discharges to air can impact on important iwi values, such as mahika kai or wahi tupuna. They can also affect the quality of our landscapes or the clarity of the night sky. The ORC will review the management of those values outside of the present strategy."	Recognises the important of other values which have not been covered in the strategy
Air Quality in Otago (p.6)	
"[…]We want to fix the problems we have with our region's air quality so everyone can safely breathe ~~our air~~ at any time of the year. […] Despite this, emissions have not reduced enough to meet the national standards or the World Health Organisation standards for human health. ~~We need to do more.~~"	Minor amendments to clarify wording
New page - Context	
Box – "Objectives for ambient air quality" "Air quality in Otago is primarily assessed against the National Environmental Standards for Air Quality (2004), but also against the Regional Plan: Air for Otago's regional goal levels, and the World Health Organisation's guidelines. In Otago, the focus is on small airborne particulate matters, measured as PM_{10} and $PM_{2.5}$ (particulate with a diameter smaller than respectively 10 and 2.5 micrometers). For good human health, concentration of those airborne particle should not exceed the following:	Provides context as requested in feedback

	PM_{10}	$PM_{2.5}$
National Environmental Standards	▪ No more than one 24-hour period exceeding 50 micrograms PM_{10}/m^3 in a 12-month period (standard)	*No standard or guideline*

	▪ No more than 20 micrograms PM_{10}/m^3 as an annual average concentration (guideline)	
Regional Goal levels	▪ No more than one 24-hour period exceeding 35 micrograms PM_{10}/m^3 in a 12 month period (warning levels)	*No goal*
WHO guidelines	▪ No more than one 24-hour period exceeding 50 micrograms PM_{10}/m^3 in a 12 month period (standard) ▪ No more than 20 micrograms PM_{10}/m^3 as an annual average concentration (guideline)	▪ No more than one 24-hour period exceeding 25 micrograms PM2.5/m3 in a 12 month period (standard) ▪ No more than 10 micrograms PM2.5/m3 as an annual average concentration (guideline)

Map of Otago with monitoring sites and number of daily exceedances 2007 and 2017 for PM10

Key issues (p.7)

Issue 1: Change last bullet point: "Rapid growth of ~~Central Otago~~ towns situated in areas where temperature inversions occur, e.g. in Central Otago and Queenstown Lakes districts"	As requested by QLDC
Change Desired outcome 3 to "~~No t~~Toxic emissions do not cause harm to ~~hurting~~ people ~~and~~ or ecosystems."	Clearer wording
Add **Issue 5: "*Issue:*** Even though they are not a major source of pollution in the region, emissions from industries and from traffic need to be managed. ***Effect***: Industrial and traffic emissions add to the overall pollution levels in an area. ***Desired outcome:*** Air pollution from traffic and industries is effectively addressed"	Recognising the contribution of industries and traffic
ORC's vision for air quality (p. 8)	
Change outcomes as follows: "Adopt cleaner heating Reduce reliance on outdoor burning No nuisance from emissions and dust ~~No t~~Toxic emissions do not cause harm to ~~hurting~~ people ~~and~~ or ecosystems Air pollution from traffic and industries is effectively addressed"	For consistency with change above
Delivering good air quality (p.9)	
Collaborative ORC will: • Share our knowledge and resources with other regional councils and central government • Work alongside territorial authorities, iwi, industries and community groups to enhance the effectiveness of our air quality programs	
• Seek synergies with existing programs, especially for housing improvements and energy efficiency	Better recognition of the link between air quality, energy efficiency and improvement
Cleaner heating (p. 10)	
Upgrades to low impact heating ORC will support transition to low impact heating by:	

• Supporting monitoring and research in low impact heating and informing people about their options • Promoting upgrades to low impact heating through information, education, and targeted financial assistance • Advocating, promoting and supporting what will facilitate the uptake of low impact heating (e.g. home insulation or cheaper electricity). ORC will work with other regional councils, with central government and with industries.	
New page "Industrial and traffic emissions"	
Industrial discharges are well controlled We will continue to actively manage industrial discharges through plans and consents, and by keeping up-to-date with industry standards and best practices ***Traffic emissions*** We will promote greater choices in transport modes and the provision of public transport and walking and cycling paths. We will continue our conversations with territorial authorities on policies on low emissions vehicles.	Aligns with current policy, approach and aspirations of ORC
What does ORC propose to do? (p. 14)	
New introduction As part of public consultation, you have identified key problems and opportunities for us to address and take. Your suggestions include: ▪ Widening our approach to ensures air quality achieves Kai Tahu's aspirations and supports their values; as well as important amenity values such as clear skies ▪ Working for the reduction of traffic emissions in Otago. Other suggestions were made on the implementation of this strategy, including: ▪ Implementing the strategy earlier than proposed ▪ Continuing or strengthening the Clean Heat Clean Air program ▪ Banning coal for the purpose of domestic heating ▪ Enforcing the Air Plan rules more actively.	Acknowledges the feedback we have received and how it will be used in our future annual plan processes

We will take those suggestions into account as part of our next annual plan process ***Align table with LTP decision***	

Our Living Treasure | Nga Taoka

Otago Regional Council's Biodiversity Strategy 2018

Otago Regional Council

Otago Regional Council

70 Stafford St, Dunedin
0800 474 082
www.orc.govt.nz

FRONT COVER: Sinclair Wetlands **THIS PAGE:** Puerua River Deviation, South Otago

We want Otago to be the proud home of thriving ecosystems and rich biodiversity

There are over 70 organisations working in biodiversity management in Otago. We've developed this strategy to identify how ORC can add value to the good work that communities are doing.

GUIDING PRINCIPLES

- Part of everyday life
- Co-led by communities
- Focus on ecosystems
- Coordinated & collaborative

DESIRED OUTCOMES

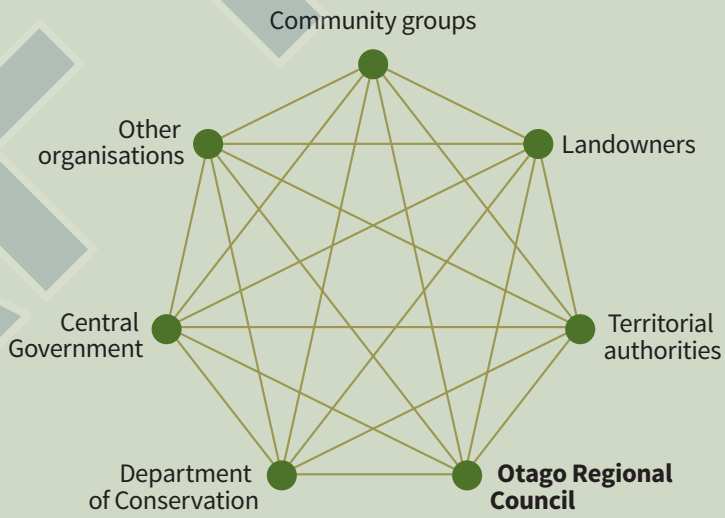
1. All indigenous species and ecosystems are maintained

2. Threatened indigenous species and ecosystems are enhanced

3. People are aware and proud of Otago's biodiversity

4. Kāi Tahu's role as kaitiaki is acknowledged and supported

5. Otago's biodiversity adds value to the regional economy



TO ACHIEVE THESE OUTCOMES, ORC WILL:

Collaborate

- Hold a regional biodiversity forum
- Partner with city and district councils, Kāi Tahu, DOC, and other organisations
- Administer the Environment Enhancement Fund

Educate and share information

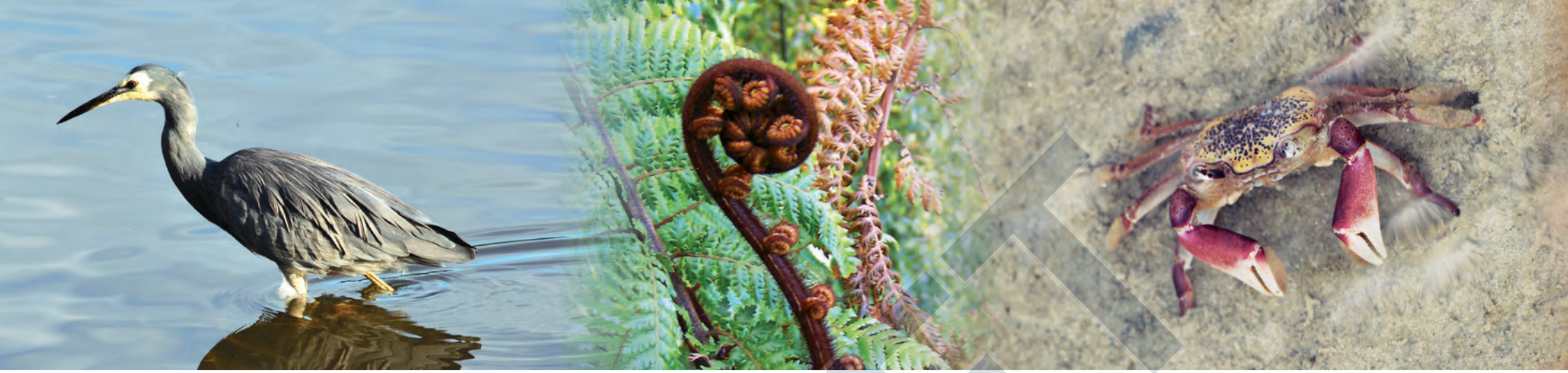
- Provide information on biodiversity
- Support education programmes
- Develop an online portal for sharing information

Monitor and research

- Undertake research on biodiversity
- Map biodiversity values, protected areas, and planned initiatives
- Undertake surveys on biodiversity outcomes, perceptions and practices

Regulate

- Administer the Regional Pest Management Plan
- Ensure regional and district plans provide good biodiversity outcomes
- Assess and report on the effectiveness of ORC's actions



CONTENTS

OTAGO'S BIODIVERSITY

We want Otago to be the proud home of thriving ecosystems and rich biodiversity

Biodiversity (short for biological diversity) describes the variety of all living things. It includes the range of species, their genetics, and the ecosystems where they live. Biodiversity is essential for the functioning of ecosystems; it helps to sustain all life forms, including human.

Otago is one of the most diverse regions in New Zealand. We are known for our wildlife: from the Orokonui Ecosanctuary in Dunedin, to the albatrosses and yellow-eyed penguins on the Otago Peninsula, to the endangered skinks of Central Otago and cheeky kea of the Southern Alps. Not to mention lizards, birds, galaxiids, plants, and marine species. This diverse ecology contributes to our health, our economy, and our social wellbeing. Otago's indigenous species are also a taoka to Kāi Tahu, and form a strong part of their cultural identity.

Refer to the appendix for a list of the key ecosystems within Otago, the species that live in them, and the threats to them.

CASE STUDY

PEST MANAGEMENT

Pest management is crucial for protecting Otago's biodiversity. The Otago Pest Management Plan provides a framework for how listed pest plants and animals are managed, and includes objectives, means of achieving and monitoring objectives, and rules that are specific to each plant and animal.

The plan is only part of ORC's response to pest management, which also includes surveillance, community assistance, public education, and funding research both nationally and internationally.

Tomahawk Lagoon, Dunedin

ABOUT THIS STRATEGY

Biodiversity permeates our surroundings, from protected reserves through to our backyards and neighbourhoods. We all benefit from it, and we can all play a part in protecting it.

This strategy outlines Otago Regional Council's (ORC) role in protecting the biodiversity that we have inherited, and leaving it in a better state for future generations. It was developed with input from stakeholders and the Otago community.

There are already over 70 organisations and community groups, as well as private landowners and individuals, enhancing our biodiversity and providing opportunities to get involved. A cornerstone of this strategy is to support these groups and foster collaboration and coordination at the regional level. As ORC implements this strategy, we will work closely with Kāi Tahu, the Department of Conservation (DOC), city and district councils, and community groups throughout Otago.

The strategy sets out the biodiversity outcomes ORC wants to achieve, and the actions we will take to reach them.

This strategy is a stepping stone. It will be a living document and evolve as new knowledge is developed, stakeholder collaboration increases, and national legislation is reviewed.

CASE STUDY

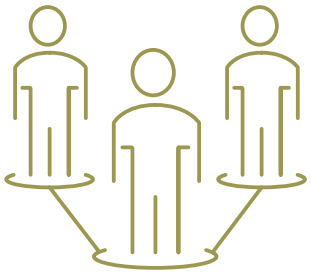
TOMAHAWK LAGOON

Tomahawk Lagoon in Dunedin has significant biodiversity and recreational value, however until recently little information existed on its ecological health. ORC has partnered with the University of Otago, Healthy Harbour Watchers, DOC, and a number of local schools to survey the water quality of the upper lagoon to clarify the existing state of the lagoon and establish a strong framework for long-term monitoring.

This project is a good example of one that could be supported through the implementation of this strategy.

GUIDING PRINCIPLES

Several principles underpin ORC's biodiversity strategy. These will guide decision making as the strategy is implemented, and will help to ensure it is successful.



CO-LED BY COMMUNITIES

Biodiversity projects are led or co-led by local communities with support from councils and organisations

FOCUS ON ECOSYSTEMS

A holistic ecosystems-based approach is taken to effectively manage biodiversity

PART OF EVERYDAY LIFE

People are conscious of and enjoy biodiversity in their everyday lives

COORDINATED & COLLABORATIVE

Key stakeholders take a coordinated and collaborative approach

KEY ISSUES

Where we are	Where we want to be
The sustainability of indigenous species is at risk from predators and pests.	The impact of pests on indigenous species is reduced.
Some unique habitats of flora and fauna have been lost, reduced in size, or degraded through human activities.	The extent and life-supporting capacity of habitat is maintained or enhanced.
There is a risk of gaps and overlaps due to the large number of agencies working in biodiversity throughout Otago. This can result in inefficiencies if not well coordinated.	Biodiversity efforts of stakeholders and communities are coordinated.
Limited funding constrains the viability and effectiveness of projects.	Biodiversity initiatives are prioritised and key projects are adequately resourced.
Ecosystem services* are not well understood, which can lead to inadequate protection and neglection.	People are aware of ecosystem services and understand how to look after them.
There are information gaps about ecosystems and indigenous biodiversity in Otago. This leads to people doing things without knowing the impact it may have. It can also impact on the effectiveness of biodiversity projects.	Organisations and communities have good information and understanding about Otago's biodiversity.
Climate change is likely to impact on the health and distribution of species. Pests will spread to new areas, habitats will change, and indigenous species may need to migrate.	Potential impacts from climate change are understood and prepared for.

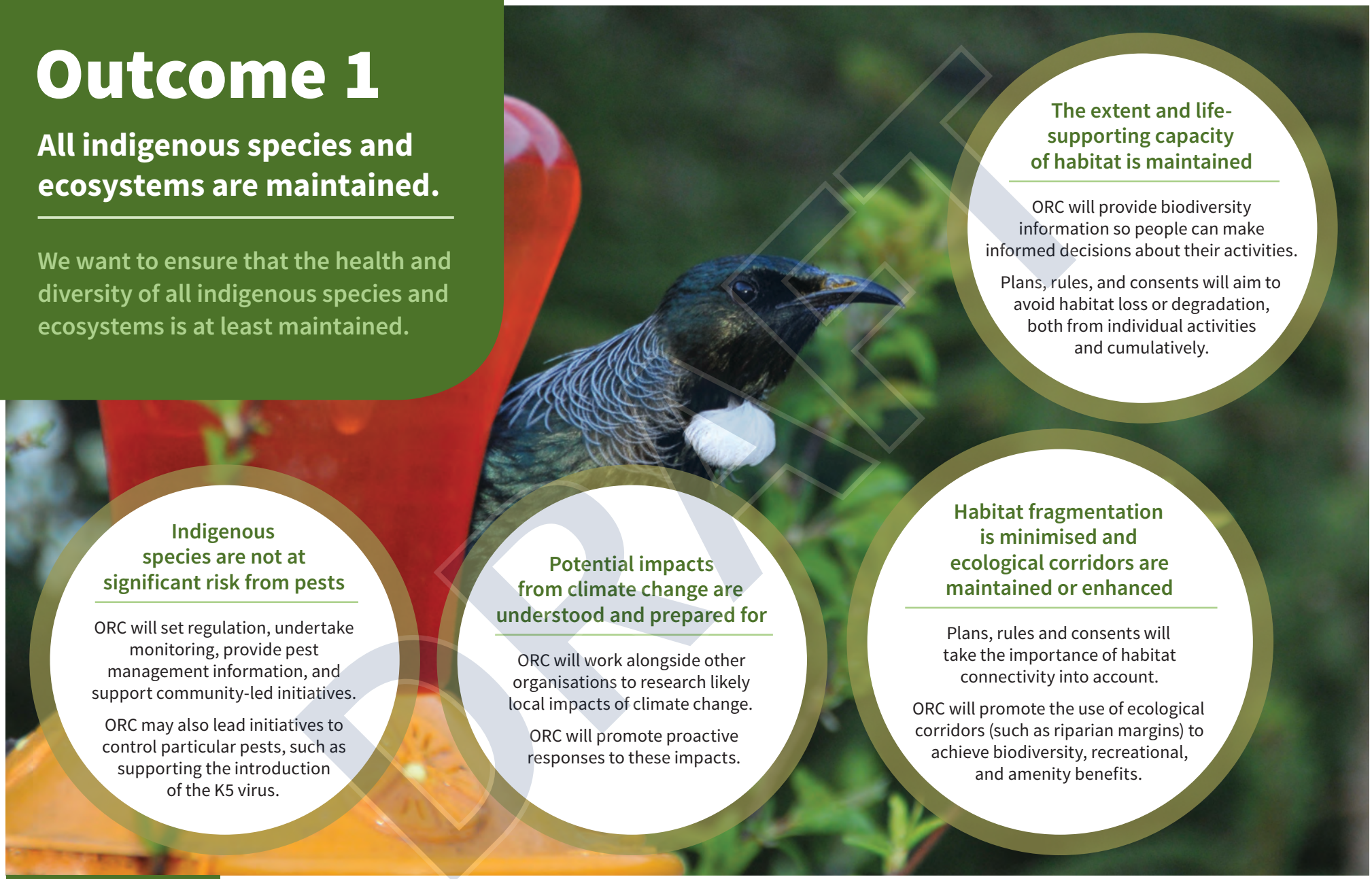
** Ecosystem services are the benefits we get from healthy ecosystems such as clean air and water, and productive soils*

VISION AND OUTCOMES FOR BIODIVERSITY

Outcome 1

All indigenous species and ecosystems are maintained.

We want to ensure that the health and diversity of all indigenous species and ecosystems is at least maintained.



Indigenous species are not at significant risk from pests

ORC will set regulation, undertake monitoring, provide pest management information, and support community-led initiatives.

ORC may also lead initiatives to control particular pests, such as supporting the introduction of the K5 virus.

Potential impacts from climate change are understood and prepared for

ORC will work alongside other organisations to research likely local impacts of climate change.

ORC will promote proactive responses to these impacts.

Habitat fragmentation is minimised and ecological corridors are maintained or enhanced

Plans, rules and consents will take the importance of habitat connectivity into account.

ORC will promote the use of ecological corridors (such as riparian margins) to achieve biodiversity, recreational, and amenity benefits.

The extent and life-supporting capacity of habitat is maintained

ORC will provide biodiversity information so people can make informed decisions about their activities.

Plans, rules, and consents will aim to avoid habitat loss or degradation, both from individual activities and cumulatively.

A tui at Macandrew Bay, Dunedin

Outcome 2

Threatened indigenous species and ecosystems are enhanced.

For species listed as threatened under DOC's New Zealand Threat Classification System, we want to actively work to increase their abundance and overall wellbeing.

Biodiversity efforts of stakeholders and communities are coordinated and synergistic

ORC will bring regional stakeholders together to maintain a shared overview of biodiversity projects and issues.

ORC will encourage and support cross-group coordination where there are opportunities for collaboration.

ORC will hold regional biodiversity forums.

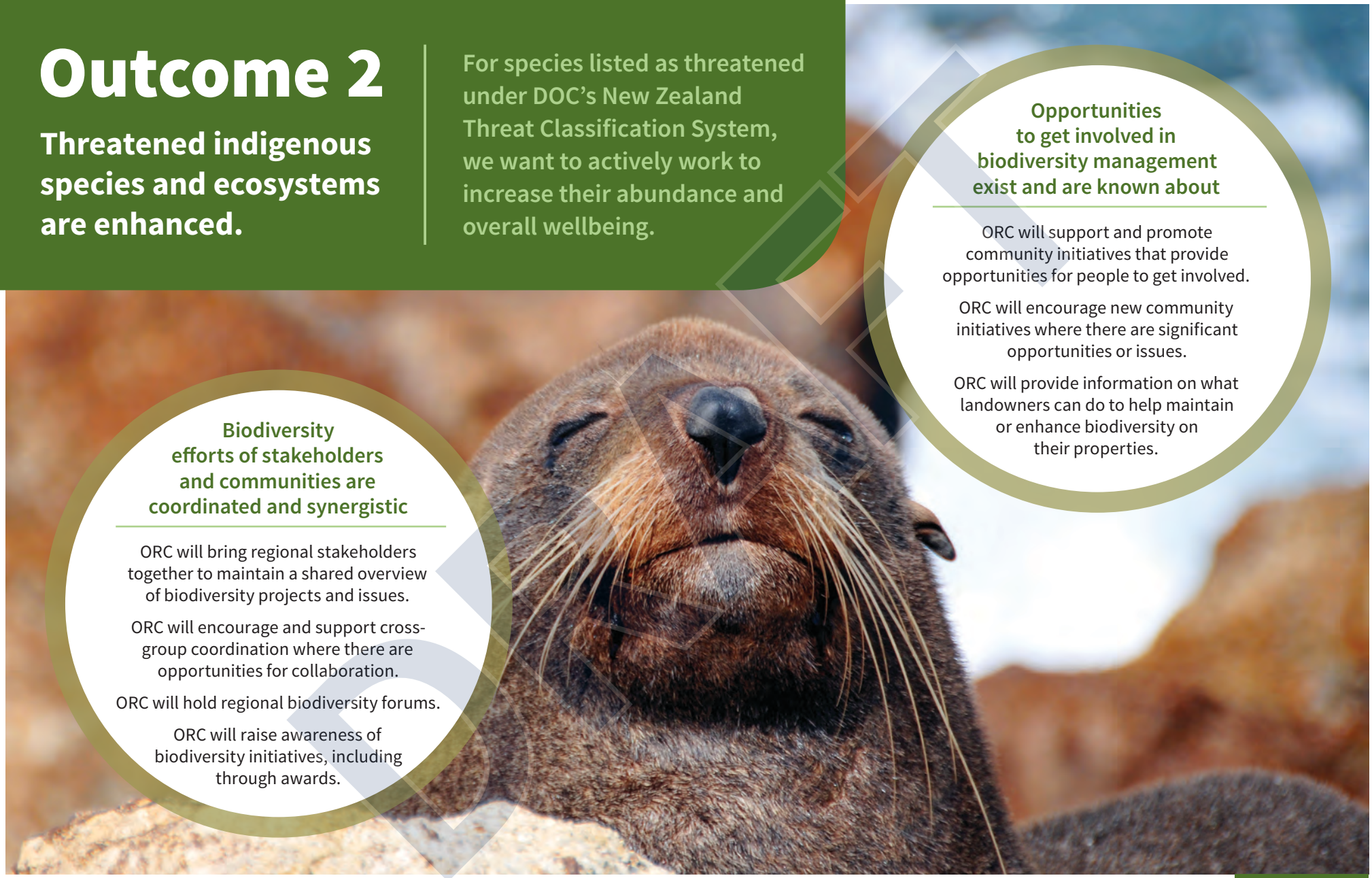
ORC will raise awareness of biodiversity initiatives, including through awards.

Opportunities to get involved in biodiversity management exist and are known about

ORC will support and promote community initiatives that provide opportunities for people to get involved.

ORC will encourage new community initiatives where there are significant opportunities or issues.

ORC will provide information on what landowners can do to help maintain or enhance biodiversity on their properties.



A seal at Aramoana

Outcome 3

People are aware and proud of Otago's biodiversity.

We want people to be aware of and enthusiastic about the biodiversity in their neighbourhoods and regions, and for it to contribute to their sense of place.

Organisations and communities have good information and understanding of Otago's biodiversity.

ORC will facilitate the sharing of information, data, and understanding between organisations and communities.

Biodiversity contributes to Otago's reputation and sense of place

ORC will promote and assist with school programmes, including Enviroschools.

ORC will promote opportunities to interact with local biodiversity, such as native bushwalks or community gardens.

Whareakeake beach

Outcome 4

Kāi Tahu's role as kaitiaki is acknowledged and supported

We want everyone to understand the values of indigenous species to Kāi Tahu and support their role as kaitiaki.

Kāi Tahu are ORC's Treaty partner in biodiversity management

ORC will work with Kāi Tahu as our Treaty partner in regional initiatives and incorporate tikaka (traditional Māori practices) into biodiversity management.

The importance of mahika kai and taoka species to Kāi Tahu is widely understood

ORC will promote the importance of these species, including by assisting relevant school programmes, e.g. Enviroschools.

Mahika kai and taoka species are enhanced

ORC will include a focus on enhancing mahika kai and taoka species in biodiversity management.

ORC will incorporate the importance of mahika kai and taoka species into regulatory processes, as well as monitoring and research.

New Zealand Longfin Eel

Outcome 5

Otago's biodiversity adds value to the regional economy.

Biodiversity can help Otago's economy by attracting tourists and residents, making our products stand out and be seen as unique, and enhancing ecosystem services.

Otago's biodiversity is used to market our products

ORC will share stories about businesses successfully using biodiversity as a differentiating factor in their marketing.

Ecosystem services are maintained or enhanced

ORC will communicate the benefits of ecosystem services, and encourage their protection and enhancement.

Biodiversity contributes to Otago's reputation and sense of place

ORC will support tourism and marketing companies to use biodiversity in promoting Otago to potential residents and tourists.

Little blue penguins, Oamaru | PHOTO: PAUL SORRELL

Sinclair Wetlands

WHAT DOES ORC PROPOSE TO DO?

This is a high-level plan and will be expanded on and added to as the strategy is implemented.

Leadership and Collaboration	TASKS	TIME
Hold a regional biodiversity forum to discuss activities and opportunities and celebrate success		**Every two years**
Partner with city and district councils, Kāi Tahu, DOC, and other organisations on key projects		**Project basis**
Establish regional biodiversity liaison group and Technical Working Party to align and co-ordinate biodiversity projects		**Within two years**
Administer the Environmental Enhancement Fund - an ORC fund that supports groups working to achieve good environmental outcomes		**Ongoing**
Support community groups by promoting their work and providing expert advice and connections		**Ongoing**
Employ a biodiversity coordinator to act as a central point of contact and drive strategy implementation		**Within one year**

Education and Information Sharing

TASKS	TIME
Provide information on biodiversity management, including good management practices for indigenous biodiversity and the importance of ecosystem services.	Ongoing
Support region-wide education programmes, including Enviroschools	Ongoing
Develop and maintain an online portal to: · Share information and resources on biodiversity · Provide a forum for discussions within and between communities	Ongoing

Monitoring and Research

TASKS	TIME
Undertake research on key biodiversity matters, including: · Issues with a high biodiversity risk and insufficient information · Regional pest management opportunities · Potential climate change effects and responses	Project basis
Develop a spatial plan showing biodiversity outcomes sought, values, protected areas, and planned initiatives	Within three years
Undertake residents' surveys on biodiversity outcomes, perceptions and practices	Every five years

Regulatory

TASKS	TIME
Administer and review the Regional Pest Management Plan	Ongoing
Ensure regional and district plans give effect to the biodiversity outcomes sought in the Regional Policy Statement for Otago	Ongoing
Manage effects of activities on coastal and freshwater biodiversity through resource consent processes	Ongoing
Develop indicators to assess the effectiveness of ORC's actions relating to biodiversity and report on these on a regular basis	Every five years

Mount Watkin

APPENDIX: BIODIVERSITY IN OTAGO

ECOSYSTEM	KEY SPECIES	THREATS
Tussock grassland and shrubland	Plants, lizards, birds, invertebrates	Agricultural intensification, mining, predators, burning, wilding conifers
Indigenous forest	Fauna: yellowhead/mohua, bats, kea, rock wren, kakariki, tomtit, brown creeper, rifleman, bellbird, tui Forest types: Beech, kanuka, rimu-miro, rātā-kamahi, matai/totara, cloud forest, volcanic boulder field	Predators, stock browse, habitat loss
Limestone ecosystems	Rare plant species	Exotic weeds, stock browse
Inland outwash plains (upper Clutha)	Rare plant species, migratory wading birds (e.g. dotterels)	Agricultural intensification, residential development
Inland saline habitats (salt pans, Lake Sutton)	Indigenous halophytic plant species (inc. salt pan cress), indigenous turf vegetation (Lake Sutton), moths (inc. Paranotoreas fulva)	Agricultural intensification, exotic weeds

ECOSYSTEM	KEY SPECIES	THREATS	
Wetlands	Plant species, wetland birds (inc. bittern, fernbird), fish (inc. galaxiids, long-finned eel, bullies)	Drainage, exotic weeds, predators, nutrient and sediment runoff	
Rivers and lakes	Aquatic plant species, fish (inc. galaxiids, long-finned eel, bullies), invertebrates	Predators (particularly trout), fish passage issues, exotic weeds	
Dunes	Dune forest, marine mammals (NZ sea lion, leopard seal), yellow-eyed penguin	Habitat loss, disturbance	
		SPECIFIC	GENERAL
Estuaries	Fish (flatfish, galaxiids, flounder), wading birds (godwits, herons), sea birds, diadromous fish	Infill and drainage, exotic plants, upstream land uses	Sedimentation Excessive nutrients Wastewater discharges Dumping of dredge spoil Rising sea temperatures Invasive species Harvesting of kelp Fishing (particularly trawling and dredging)
River mouths and receiving coastal water	Sea birds (inc. Otago shag, southern blue penguin), Hector's dolphin, squat lobster		
Intertidal/shallow subtidal area	Giant bladder kelp, bull kelp, Hector's dolphin, shellfish (rock lobster, cockle/tuaki, tuatua, horse mussel), worms and crustacea, small red seaweeds, sponges, bryozoans and solitary ascidians.		
Biogenic habitats	Invertebrates, seagrass, juvenile tarakihi, blue cod, and lobsters	Trawling and dredging	
Deep sub-tidal habitats	Brittle stars, sea stars, gastropods, bivalves, shrimps, hermit crabs, bryozoans, sponges, quill worms, whales, fur seals, seabirds (inc. penguins, sooty shearwaters, albatrosses)		

THIS PAGE: Mou Waho Island, Lake Wanaka **BACK COVER:** Okia Reserve, Otago Peninsula

ORC DRAFT Biodiversity Strategy 11 May 2018

Comments from Aspiring Biodiversity Trust (ABT)

Welcome and commend the production of a Biodiversity Strategy for Otago. After review of the document the following comments are provided.

Outcomes 1 - 5

The work of ABT and other local groups aligns with this vision and are collectively helping to contribute to the five important objectives within north Otago as outlined within the draft document.

1, What does Otago propose to do (Pg 15-16).

Totally support the appointment of a full time Biodiversity Coordinator for the region and this would certainly be of interest to me as a professional ecologist who has worked for local government for seven years in the UK within Strategic Planning and Environmental Policy.

Welcome the establishment of a regional Biodiversity Forum. The Aspiring Biodiversity Trust would be delighted to contribute to this event.

2, Education and information sharing

Welcome development of online forum to share biodiversity information.

Suggest promotion and establishment of a regional biological recording hub where threatened species and habitat records are collated, uploaded on spatial mapping software. This data is then available to guide future ORC's decisions. The database should where possible be inclusive of indigenous species records within urban habitats *i.e*. reptiles, birds, bats.

This would also be a valuable spatial planning tool in relation to further development proposals thereby considering biodiversity and retention of habitat corridors (green infrastructure) within planning.

3, Appendix: Biodiversity in Otago (Pg 17-18).

Under key ecosystems there is a risk of omission of identification of threatened species and habitats with attempts to create too broader categories.

To include, suggest:

Braided Rivers - threatened species; **wrybill, black-fronted tern, black-billed gull, banded dotterel**. Threats invasive introduced mammals and native avian predators (Southern black-backed gull).

Under indigenous forest, forest type include: **beech/podocarp** forest (Makarora).

Indigenous forest key species – **rock wren are true alpine specialists** within bolder fields/ scree slopes not found in forests generally. Can be confused with rifleman. Suggest having an alpine habitat category which would also include kea – worlds only alpine parrot and alpine flora.

Under threats; be helpful to include mammal type *i.e.* invasive introduced mammalian pest such as stoat, hedgehog, rat, feral cat.

Hope these comments are useful. Happy to elaborate further.

Best regards

Rachel Hufton MCIEEM MEIANZ

Ecologist / Ornithologist

64 (0) 210510240

rlhufton@gmail.com

Department of Conservation
Te Papa Atawhai

LOCAL GOVERNMENT ACT 2002

To: Otago Regional Council

Submission on: Otago Regional Council Draft Biodiversity Strategy 2018

Name: Lou Sanson, Director General of Conservation

Address: PO Box 811
Queenstown 9348

Statement of Submission by the Director General of Conservation

Pursuant to S83 of the Local Government Act 2002, I Geoff Owen, Operations Manager Wakatipu/Queenstown district of the Department of Conservation on behalf of the Director General of Conservation, make the following submission on the above consultation document.

General comments

1. I support the Council's draft Biodiversity Strategy 2018 "Our Living Treasure Nga Taoka", its investment in building thriving ecosystems and rich biodiversity in Otago and working with others to achieve this. I see people's ability to engage and work with the Council and its strategy as being crucial to regional success. I congratulate the Otago Regional Council on developing the draft strategy.

2. I support the vision and the desired outcomes. Otago's biodiversity, ecosystems and landscapes contribute significantly to the region's economy, for example via ecotourism and ecosystem services. It also provides for people's mental and physical wellbeing and contributes significantly to the attraction of Otago as a place to live and visit. The Biodiversity Strategy might eventually provide an underlying theme for much of the Council's work.

3. I support the view that the Biodiversity Strategy be a living document that will evolve as new knowledge, tools and stakeholder engagement changes but anticipate changes to be around implementation of the strategy rather than around the guiding principles, vision and outcomes. I suggest a separate implementation plan will be required to ensure effective execution of the strategy.

Specific comments

<u>Outcome 1: All indigenous species and ecosystems are maintained</u>

4. DOC is pleased to see the goal of ensuring indigenous species are not at significant risk from pests and the Council's approach of supporting community-led initiatives. There are already several community-led responses to the bold Predator Free 2050 goal for which the Council's support would be timely and welcomed. In particular, support for the landscape-scale Predator Free Dunedin, a project that will provide learnings and inspiration for other similar initiatives around Otago, would provide substantial biodiversity benefits.

5. The Council should give priority to maintaining a representative range of ecosystems and species that are typical of the Otago region.

6. The draft strategy rightly identifies climate change as important issue in Outcome 1. On the coast, sea level rise will also be a concern for low-lying coastal areas and wetlands. The New Zealand Coastal Policy Statement 2010 (and any subsequent revisions to it) should be a key driver in the Council's thinking with respect to the effects of sea level rise and coastal environments and species.

Outcome 2: Threatened indigenous species and ecosystems are enhanced

7. I support the emphasis on actively working to increase the abundance and overall wellbeing of threatened species. Although not mentioned in the draft strategy, I note that there is also a list of nationally threatened ecosystems which may provide a useful ecosystem framework for the strategy to adopt.

Outcome 3: People are aware and proud of Otago's biodiversity

8. I agree that having good information and understanding of Otago's biodiversity is essential in enabling organisations and communities to actively engage in biodiversity matters. There is already considerable information available on the region's biodiversity, and collating that and making it readily accessible would be desirable in helping achieve this outcome.

9. I support the Council's Enviroschools programme to build intergenerational biodiversity understanding and knowledge. The potential for the Council to become involved in collaborative education initiatives should also be explored.

10. Council promotion of opportunities for people to interact with local biodiversity should move beyond bushwalks and community gardens. Otago has a wide range of ecosystems, mountains, coasts, dry-lands, lakes and wetlands that are all readily available to the public through a network of public lands managed by the Department and other authorities.

11. I support the development of systems to share information between organisations and communities. New internet-based systems are now available. For example, NatureWatch should be promoted as an accessible means of collating biodiversity information, and the Department's new Estuaries Internet Hub which is being used to share best practice initiatives for restoring, monitoring and experiencing estuaries around New Zealand (see www.doc.govt.nz/estuaries).

Outcome 4: Kai Tahu's role as kaitiaki is acknowledged and supported

12. The Department's primary Treaty partner in Otago is Ngāi Tahu. The Department recognises Ngāi Tahu tino rangatiratanga over their taonga tuku iho (treasured resources) and exercising of their kaitiakitanga responsibilities (cultural guardianship) and protection over them. The contribution of Ngāi Tahu resources, knowledge and values to Otago is recognised, and we would support Ngāi Tahu's active engagement in decision-making, management and implementation of the strategy.

Outcome 5: Otago's biodiversity adds value to the regional economy

13. While I generally support this outcome, I note that increasing tourism and business support can potentially have negative impacts on some elements of biodiversity. Care will be needed to ensure that this outcome is achieved without compromising

the biodiversity values that are attracting tourists or achieving business outcomes. For example, the demand for freshwater, especially in the drier parts of Otago, is already placing pressure on threatened aquatic species.

14. I support the appointment of a biodiversity co-ordinator. Sufficient operational and financial support should be available for the position to achieve successful implementation of the strategy.

15. I submit the Council should seek strategic alignment with other organisations (under Leadership and Collaboration) as well as working on a project basis. I support the Council investing in research on matters of high biodiversity risk, improving information gaps, pest and weed control opportunities, and the effects and regional responses to climate change and sea level rise.

    Appendix: Biodiversity in Otago

16. I note that the alpine environment is poorly represented within the list of ecosystems. Alpine ecosystems, comprising herbfields, cushionfields, and fellfields are dominant features across Otago's distinctive block mountains and in the western alps. Although often less modified than other ecosystems they are also threatened by weeds, predators and climate change.

Dated at Dunedin this 11th day of May 2018.

Geoff Owen
Operations Manager
Wakatipu/Queenstown District
Acting pursuant to delegated authority

DUNEDIN CITY COUNCIL
Kaunihera-a-rohe o Otepoti

50 The Octagon, PO Box 5045, Moray Place
Dunedin 9058, New Zealand
Telephone: 03 477 4000, Fax: 03 474 3488
Email: dcc@dcc.govt.nz
www.dunedin.govt.nz

11 May 2018

Biodiversity Strategy 2018
Otago Regional Council
70 Stafford Street
Dunedin 9054

SUBMISSION ON THE OTAGO REGIONAL COUNCIL'S BIODIVERSITY STRATEGY 2018

Introduction

1. The Dunedin City Council (DCC) congratulates the Otago Regional Council (ORC) on the development of the draft Biodiversity Strategy and appreciates the opportunity to provide feedback on the draft Strategy.

2. This submission outlines the DCC's role and responsibility in biodiversity protection and provides general comments and recommendations in regards to specific outcomes and actions in the draft Strategy.

3. In 2016, the DCC adopted Te Ao Tūroa – The Natural World, Dunedin's Environment Strategy 2016-2026. The Strategy takes a partnership approach to delivering on the city's environment ambitions, with everyone working together to facilitate and secure a healthy environment now and into the future. The Strategy's aspirational goals are:

   - Dunedin is resilient and carbon zero – developing and implementing a climate change adaptation plan and sustainable resource management;
   - Dunedin has a healthy environment – taking a landscape-scale approach to protecting ecosystems and increasing indigenous biodiversity; and,
   - Dunedin people care for the natural world – engaging with the community and raising awareness of issues around the city's natural environment.

4. The Strategy's implementation is overseen, monitored and reviewed by the Te Ao Tūroa Partnership, the governance group for the Strategy that includes a range of key city stakeholders and community representatives, of which the ORC is a member.

5. Partnership with Kāi Tahu as kaitiaki is integral to achieving the city's environmental outcomes set out in the Strategy.

6. The DCC is active in safeguarding the natural world, and this is an increasing focus since the adoption of Te Ao Tūroa. In addition to regulatory protection of biodiversity under the Dunedin City District Plan, this work includes:

   - providing significant financial and in-kind support to Predator Free Dunedin aimed at landscape-scale predator removal;
   - approving the recently reviewed Reserves and Beaches Bylaw 2017 which considered human impacts on wildlife;

- approving the Dunedin Destination Plan with one of the aims to manage impacts of increased numbers of visitors to protect and enhance our natural environment; and,

- approving substantial investment in provision of support for private investment in ecological restoration through the Biodiversity Fund.

7. In the context of the DCC's responsibilities and functions, there is a role in contributing to implementation of the ORC's Biodiversity Strategy.

8. The DCC has a role and responsibility to manage indigenous habitat and to control noxious animals and weeds on DCC land and works alongside the legislative roles and responsibilities of the ORC and the Department of Conservation (DOC) to manage pests in the Dunedin city boundary.

General comments

9. The DCC is pleased to submit overall in support of the draft Strategy.

10. The DCC wishes to highlight the value and importance of effective collaboration and partnership in protecting biodiversity and ecosystems as proposed in the draft Strategy.

11. The DCC supports the employment of a regional biodiversity coordinator and coordination of a regional biodiversity forum, both of which are envisaged to promote and facilitate coordinated and collaborative activities.

12. However, the DCC notes that it is unclear, due to inconsistent language, what role the ORC is prepared to take in this collaborative approach and strongly encourages that the ORC plays an active leadership role in driving collaborations. This aspect needs to be more explicit to enable the desired outcomes to be effectively realised without duplicating efforts by others.

13. The DCC also supports the administration of the Environment Enhancement Fund to support community work. The strategy document would benefit from having more information about the Fund to promote and raise its profile, including the funding criterial and funding cycles.

14. The DCC supports the concept of an on-line portal to share biodiversity information. The DCC also supports the ORC undertaking research on key biodiversity matters, including issues with a high biodiversity risk and insufficient information. As an example, it would be highly useful for this research to assist with interpretation of the criteria for identifying areas of significant indigenous vegetation and habitat of indigenous fauna, as set out in Schedule 4 to the proposed Regional Policy Statement for Otago.

15. The DCC is pleased to see the draft Strategy acknowledges that community groups working to protect wildlife contribute not only to the conservation of biodiversity, but also to Otago's economy through tourism.

16. As an example of the importance of Dunedin's biodiversity, the Otago Peninsula's wildlife – including the New Zealand Sea Lion, Yellow-eyed Penguin and Northern Royal Albatross – has led to Dunedin being dubbed the 'Wildlife Capital' of New Zealand. Enterprises directly involved in wildlife viewing on the Peninsula have a gross annual turnover of around $6.5 million and employ the equivalent of 70 full-time staff[1].

17. The DCC appreciates that this is a high-level strategy and suggests a separate implementation plan be developed for the Biodiversity Strategy to be successfully realised.

Specific comments

Outcome 1: All indigenous species and ecosystems are maintained.

18. The DCC is in support of the vision of this outcome, however, would like to see it be more aspirational. This is an opportunity for the ORC to be aspirational and bold and to create a document that will influence change and steer conservation efforts in the region. The DCC recommends more proactive language to be used in this outcome.

19. It is encouraging to see the impact of habitat fragmentation is addressed in the management of biodiversity and ecosystems although, when promoting ecological corridors, it is important to recognise and manage the risk that such corridors also can provide a conduit for pest animals.

Outcome 2: Threatened indigenous species and ecosystems are enhanced.

20. Recognising the functions and responsibilities of the regional government, the DCC recommends the focus of the Outcome 2 be on the protection of habitats of those threatened indigenous species and biosecurity, rather than directly addressing threatened species, which are managed by DOC.

21. The DCC is pleased to see that landowners are appropriately recognised to play an important role in maintaining and enhancing biodiversity. However, the DCC would prefer to see primary industries also acknowledged, considering their important influence on the health of the environment.

Outcome 3: People are aware and proud of Otago's biodiversity.

22. In the opinion of the DCC, collation and review of existing information should be included in this outcome in addition to "the sharing of information". Collating information would provide good use of existing data and a good starting point for the proposed online portal for information sharing about biodiversity.

23. The DCC would like to see strong emphasis on advocacy to actively engage communities. The DCC would be willing to work with the ORC to take a collaborative approach to public education and awareness-raising to promote active learning about the biodiversity in the city.

[1] Tisdell, C (2007) *The Economic Importance of Wildlife Conservation on the Otago Peninsula – 20 Years On*

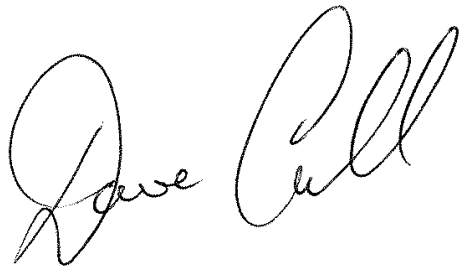
Outcome 5: Otago's biodiversity adds value to the regional economy.

24. It is a concern that visitor management is completely neglected while proposing to "support tourism and marketing companies to use biodiversity in promoting…". The DCC urges the ORC to appropriately and adequately address impacts of tourism on the environment in the document. It is identified as one of the initial actions under Te Ao Tūroa, Dunedin's Environment Strategy. The DCC, together with members of the Te Ao Tūroa Partnership, is prepared to work with the ORC to develop and implement a visitor management plan or plans to protect Dunedin's species places.

Conclusion

25. This submission is made in the positive spirit of acknowledging and strengthening a partnership with the ORC that is committed to safeguarding biodiversity and ecosystems. The DCC looks forward to working with the ORC and other relevant parties on the implementation of the Biodiversity Strategy.

Yours sincerely,



Dave Cull
Mayor of Dunedin

From:	Dale Meredith
To:	Dolina Lee
Subject:	FW: Otago Biodiversity strategy
Date:	Monday, 14 May 2018 11:16:14 a.m.
Attachments:	image001.gif

From: Alex Morgan [mailto:Alex.Morgan@es.govt.nz]
Sent: Monday, 14 May 2018 11:10 a.m.
To: Dale Meredith <Dale.Meredith@orc.govt.nz>
Cc: 'Lisa Miers' <lisa.miers@mitchelldaysh.co.nz>
Subject: RE: Otago Biodiversity strategy

Good morning Dale, and thanks Lisa.

I appreciate that due to my error I've missed the formal submissions period on the Biodiversity Strategy. A few staff here have had a look over it, including our Biodiversity Programme Leader. We did have some comments for you to consider, included below. We felt it was well constructed and hope it provides ORC with the direction it needs to meet its biodiversity obligations into the future.

In particular we would like to encourage a collaborative and consistent approach between our organisations. We were very pleased to see the role of a biodiversity coordinator created and hope that person can form a close working relationship with our own biodiversity staff. Environment Southland is also considering options for an information sharing portal and there may be benefits in investigating a shared resource that would be consistent throughout the South Island.

- Supportive of the guiding principles and vision but would like to see more active management.
- Supportive of the employment of a biodiversity coordinator, and would encourage them to attend the bio working group, as well as developing a collaborative relationship with the equivalent position at Environment Southland. To maintain bio diversity we need to work across council boundaries.
- Outcome 1 could include more information about the management of threats beyond pests and climate change e.g. impacts of pollution, drainage and land clearance. Eg: "Potential impacts from external threats, including climate change, pollution etc, are understood and prepared for."
- Monitoring and research. RC's have jointly agreed to use Singers and Rogers and Zonation to rank natural ecosystems and provide a high-level view of indigenous biodiversity priorities in order to identify and protect a representative range of indigenous ecosystems. – it would be good if ORC included this agreement so that ES and ORC can work more closely together to agree priority outcomes that protect biodiversity in the southern sth island. We would also encourage ORC to adopt the 18 biodiversity indicators as agreed with other RC's and recognise them in this strategy.
- Outcome 5 could acknowledge and include the non-quantitative value of biodiversity eg: the importance of ecosystem services to the region.
- Sharing information: The portal is something that Environment Southland is likely to

include in our own biodiversity strategy. We would be interested in working collaboratively to create one for the wider region, rather than having two separate ones.
- It may be beneficial to consider and mention Gerard Willis' report "Addressing New Zealand's Biodiversity Challenge: A Regional Council thinkpiece on the future of biodiversity management in New Zealand" to which ORC contributed, including discussing the required shifts e.g. "ORC is progressively adopting the shifts recommended in the report…"

I hope the commentary is helpful and myself and the biodiversity programme leader would be more than happy to discuss any comments.

We are also in the process of developing a biodiversity strategy for Southland, although at this stage it looks like we will have a document more aligned with Canterbury. I think the difference is that ORC strategy is a strategy for ORC as an organisation whereas ours will be one for the region that other organisations can adopt.

Again, I hope the above is helpful and good luck with the rest of the process, looking forward to seeing the final version.

Regards

Alex

From: Lisa Miers [mailto:lisa.miers@mitchelldaysh.co.nz]
Sent: Monday, 14 May 2018 9:41 a.m.
To: Alex Morgan
Cc: Dale Meredith
Subject: RE: Otago Biodiversity strategy

Hey Alex, not a problem just email Dale Meredith who is the leading the Biodiversity Strategy – I have CCD her into this response.

Best regards,

Sent from Mail for Windows 10

Lisa Miers
Senior Consultant

+64 3 477 7884 | +64 22 323 7144 | PO Box 489, Dunedin 9054
www.mitchelldaysh.co.nz

From: Alex Morgan <Alex.Morgan@es.govt.nz>
Sent: Monday, May 14, 2018 8:50:30 AM
To: Lisa Miers
Subject: Otago Biodiversity strategy

Hi Lisa,

I've made a small timing blunder and missed submissions on the ORC Biodiversity Strategy, I had written down the 17th and not the 11th. Do you have a contact for the person working on the process? Comments are positive ones and are mostly about looking at ways in which we can collaborate so aren't likely to cause anybody any distress.

Many thanks

Alex

Alex Morgan
Acting Team Leader - Policy & Planning
Environment Southland *Te Taiao Tonga*

P 03 211 5115 | **M**
Cnr Price St & North Rd, Private Bag 90116, Invercargill 9840
Alex.Morgan@es.govt.nz | www.es.govt.nz | facebook.com/environmentsouthland

This e-mail message has been scanned for Viruses and Content and cleared by **NetIQ MailMarshal**

This email has been filtered by SMX. For more information visit smxemail.com

FEDERATED FARMERS OF NEW ZEALAND

Federated Farmers of New Zealand

Submission to Otago Regional Council on the Draft Biodiversity Strategy

11 May 2018

Submission to Otago Regional Council on the Draft Long Term Plan 2018 to 2028

To: Otago Regional Council

Name of submitter: Federated Farmers of New Zealand

Contact person: David Cooper
Senior Policy Advisor
E: dcooper@fedfarm.org.nz
M: 0274 755 615

Address for service: PO Box 5242
Dunedin 9054

This is a submission to Otago Regional Council on the Draft Biodiversity Strategy.

Summary of Submissions

Federated Farmers appreciates the opportunity to submit to the Otago Regional Council Draft Biodiversity Strategy.

- We support the intention and approach proposed in the Draft Strategy.
- Federated Farmers is keen to be involved in the implementation of the Strategy.
- We consider it important that the Strategy views farmers as partners, and that greater focus is given to recognising, rewarding and advertising the good efforts on-farm.
- We want to see the Strategy implemented in urban areas as well as rural areas. This includes placing emphasis on how:
  - Urban planning and land use can better incorporate biodiversity outcomes, and
  - Otago's TLAs can better promote and encourage biodiversity management in the rural areas.

Contents of the proposed Strategy

Federated Farmers supports the:

- Draft Strategy's specific incorporation of pest management as a tool to deliver biodiversity outcomes,
- Guiding Principles behind the Strategy
- Key Issues identified
- Vision for the Strategy

Proposed Outcomes

We ask that Outcome 1 is reworded as follows (or words to similar effect):

Outcome 1: Otago's overall~~All~~ indigenous species and ecosystems are maintained

Federated Farmers supports the remaining Outcomes, and the actions proposed for the Draft Strategy.

1.0 General submissions

1.1 Federated Farmers of New Zealand (Inc.) welcomes the opportunity to submit to the Otago Regional Council Draft Biodiversity Strategy (the 'Draft Strategy').

1.2 Federated Farmers is a voluntary, primary sector organisation representing farming members and their families. Federated Farmers has a long history of representing the needs and interests of New Zealand farming communities, primary producers and agricultural exporters.

1.3 We support the intention and broad approach of the Draft Strategy – Federated Farmers recognises the importance of biodiversity, not only for the functioning of ecosystems, but also to the broader wellbeing of Otago's residents.

1.4 We agree there are many individuals, organisations and agencies involved in delivering, managing or interacting with biodiversity in the region, and we agree Otago Regional Council has an important role to play in leading the discussion around how these various agents can work together, as well as attempting to outline what biodiversity outcomes we want to see in Otago, and how we can best achieve these outcomes.

1.5 We agree with the overall approach of the Draft Strategy – as the Draft Strategy acknowledges, there are some national discussions around the future of Biodiversity management in New Zealand which may have a material impact on the Biodiversity Strategy specifically, and management of Biodiversity in Otago more generally.

1.6 As a result, while we agree this is a timely document, we also consider it is premature to take an onerous or prescriptive approach to management of Biodiversity. The Draft Strategy recognises this, by focusing on providing a framework which attempts to bring those interested in the management of biodiversity together in the early stages of an iterative and ongoing process. We support this overall approach.

1.7 We also consider the collective approach proposed through the Draft Strategy will provide an avenue for better partnership between those involved in management of biodiversity outcomes for the region.

1.8 As the Draft Strategy acknowledges this begins with attaining some agreement on principles, desired outcomes and roles between the myriad agents involved in managing, or impacted by the management of, biodiversity outcomes in the region.

1.9 Federated Farmers is keen to be involved in the refinement and implementation of the strategy – Any approach to managing biodiversity will have some impact on farmers in the region, simply because farming takes place over a large expanse in rural areas.

1.10 Federated Farmers represents many of Otago's farmers, and has experience working with regional biodiversity groups in other regions. We would be keen to work with Otago Regional Council and other stakeholders under the Biodiversity Strategy.

1.11 It is important the Strategy views farmers as partners – As a general view, the strategy aims to ensure Otago residents are aware of, take ownership of and are proud of Otago's biodiversity. We agree entirely this should be a desired outcome. Our view is that the best results will be achieved when farmers encompass the goals of the biodiversity strategy in their day to day decision making on-farm.

1.12 Many farmers are already actively doing this, committing significant time, effort, investment and opportunity cost into preserving or enhancing biodiversity. In these examples facilitation and support can magnify these individual efforts.

1.13 Others need further support to get there. This means explaining the 'Why' as well as the 'How'; working with farmers to engender understanding and appreciation of the same values driving the Draft Strategy, and how landowners can play their role in delivering upon these outcomes.

1.14 This also means recognising, rewarding and advertising the good efforts of farmers who are actively working to deliver positive biodiversity outcomes for the region. Talking up the positive will not only provide an incentive for doing more good, but it will socialise the point that 'good farming' incorporates biodiversity.

1.15 Biodiversity is not just for rural areas or 'those green expanses out there' – two recurring but concerning themes coming through District planning processes is that our biodiversity loss is benchmarked to pre-European settlement, and that because rural areas are 'relatively under-developed', they should be the focus areas for 'maintaining and enhancing' biodiversity.

1.16 While farmers and others in the rural area certainly have roles to play, it is an urban conceit that biodiversity belongs to 'those green expanses out there in the rural areas', simply because those areas are already greener, and less developed.

1.17 If Biodiversity is to be embraced and delivered upon regionally, all residents and visitors have to play their part. This may mean focusing on delivering a greater range of sustainable biodiversity in urban areas, or folding biodiversity values into urban development planning. It may also mean councils providing practical support to rural landowners to underline the roles rural areas can play in offsetting the biodiversity lost to urban development.

Summary:

Federated Farmers appreciates the opportunity to submit to the Otago Regional Council Draft Biodiversity Strategy.

- **We support the intention and approach proposed in the Draft Strategy.**
- **Federated Farmers is keen to be involved in the implementation of the Strategy.**

- **We consider it important that the Strategy views farmers as partners, and that greater focus is given to recognising, rewarding and advertising the good efforts on-farm.**
- **We want to see the Strategy implemented in urban areas as well as rural areas. This includes placing emphasis on how:**
  - **Urban planning and land use can better incorporate biodiversity outcomes, and**
  - **Otago's TLAs can better promote and encourage biodiversity management in the rural areas.**

2.0 Contents of the Draft Strategy

2.1 Specific inclusion of Pest Management – Federated Farmers supports the Draft Strategy's specific incorporation of pest management as a key tool to deliver biodiversity outcomes, particularly the preservation of indigenous species.

2.2 Introduced pest and weed species are recognised as being a significant threat to the long term survivability of indigenous species. This has most recently confirmed by the Parliamentary Commissioner to the Environment and is a considerable focus of government. Pest management can also bolster indigenous biodiversity indirectly, by ensuring that existing farm production platforms are more productive and easy to manage, placing less pressure on additional development.

2.3 Guiding Principles (page 7) – Federated Farmers supports the Principles guiding the Draft Strategy. As expressed in section 1 of this submission, we consider ownership of the issues, understanding of the potential solutions and coordination of the various components or agents involved in providing for biodiversity provides the best chance to engender a genuine, 'ground up' ownership of Otago's biodiversity outcomes. We consider the guiding principles are aligned to these views.

2.4 We also support the focus on ecosystems. However, it should be noted that the complexity and interactive nature of ecosystems can make these difficult to understand, particularly the interactivity of the various biodiversity components. This simply underlines the need for the Biodiversity Strategy to be an evolving, partnership focussed document which seeks to tailor solutions to individual ecosystems within the specific and unique context of those ecosystems.

2.5 Key issues (page 8) – Federated Farmers agrees the identified Key Issues are relevant for a Strategy intended to be high level, partnership focussed and focussed on providing a basis for an evolving discussion. While there may be some areas where we would seek further detail, we consider this detail will fall out of the processes which follow in the implementation of the strategy.

2.6 Vision: "Otago is the proud home of thriving ecosystems and rich biodiversity" – Federated Farmers considers the proposed Vision is relevant. We support the 'ownership' component represented by the term 'proud home'.

2.7 We consider, on balance, that it is reasonable that the Vision does not specify that it is 'rich indigenous biodiversity' that is the focus of the Strategy, given the value communities place on introduced biodiversity, and given the direction provided to councils under the Resource Management Act. Furthermore, we appreciate that the Resource Management Act similarly recognises non-indigenous biodiversity where it provides a significant habitat for indigenous fauna.

2.8 However, we note that there may at times be instances where introduced biodiversity and indigenous biodiversity may be in conflict. As with out more general views we consider the Strategy's role is to ensure these will be addressed in a collaborative manner within the context of each ecosystem and actively engage with impacted landowners throughout

Summary:

Federated Farmers supports the:

- **Draft Strategy's specific incorporation of pest management as a tool to deliver biodiversity outcomes,**
- **Guiding Principles behind the Strategy**
- **Key Issues identified**
- **Vision for the Strategy**

3.0 Proposed Outcomes

3.1 Outcome 1: All indigenous species and ecosystems are maintained – Federated Farmers is concerned at the blanket nature of the Outcome, particularly the use of the words 'all' and 'maintained'.

3.2 Species and ecosystems are natural, constantly evolving biological entities. Species can also come into conflict with each other. As a result 'maintaining' 'all' indigenous species and ecosystems may be practically impossible, particularly in light of the increasing challenges associated with climate change, biosecurity incursions and pests.

3.3 While as an aspirational goal may be worthy, the outcome is phrased as a practical impossibility. This serves to undermine the relevance of the Outcome as a touchstone for the implementation of the Strategy.

3.4 We consider the Outcome should be reworded to provide some flexibility while also ensuring the Outcome is not unnecessarily 'absolute', for example reworded as follows:

Outcome 1: Otago's overall~~All~~ indigenous species and ecosystems are maintained

3.5 Outcome 2: Threatened indigenous species and ecosystems are enhanced – We support this outcome, and the consequent actions, as proposed.

3.6 Outcome 3: People are aware and proud of Otago's biodiversity – we support the proposed Outcome for the reasons addressed earlier in this submission; that ownership and understanding are critical components of successful biodiversity outcomes in Otago. We also support the consequent actions as proposed.

3.7 Outcome 4: Kāi Tahu's role as kaitiaki is acknowledged and supported – Federated Farmers agrees that Kāi Tahu's role as kaitiaki should be acknowledged through the Strategy, and that the fundamental principles of tikaka should be reflected through implementation of the Strategy. This is consistent with the Wai 262 decision and recommendations.

3.8 Outcome 5: Otago's biodiversity adds value to the regional economy – Federated Farmers supports this outcome. While it may be criticised as an attempt to place an economic value on the unquantifiable, in actuality good biodiversity outcomes represent the opportunity for a genuine win/win for the region. Generally, good biodiversity outcomes indicate efficient and effective management of natural resources and this has an impact on the bottom dollar of farms.

3.9 This includes biodiversity providing an attraction for tourists and residents to visit the reaches of Otago, but it also provides an opportunity for farming which focusses on successful biodiversity, sustainability outcomes and mitigating environmental concerns to be recognised and rewarded by export markets. This is recognised in the first action, which acknowledges that biodiversity can be used to market our natural production overseas.

3.10 Proposed Action Plan – we support the proposed Actions and timeframes. We particularly support the inclusion of the Environmental Enhancement Fund in these focus actions. This fund can potentially be a game changer, recognising and promoting the provision of biodiversity, celebrating those who do a good job of promoting good biodiversity outcomes, and reflecting the tremendous time and effort that many landowners put into delivering good biodiversity outcomes for the good of the region. A similar programme and fund has worked extremely well in the Taranaki region.

Summary:
We ask that Outcome 1 is reworded as follows (or words to similar effect):
Outcome 1: Otago's overall~~All~~ indigenous species and ecosystems are maintained

Federated Farmers supports the remaining Outcomes, and the actions proposed for the Draft Strategy.

LCT submission on *Our Living Treasure | Nga Taoka*

Organisation: Landscape Connections Trust (LCT)
Contact person: Rhys Millar
Role: Project Manager
Email: landscapeconnectionstrust@gmail.com
Phone: 0273877866

Thankyou for the opportunity to comment on *Our Living Treasure | Nga Taoka*, the ORC's draft Biodiversity Strategy 2018.

Background

LCT coordinated the development of a community-led vision and management strategy for the restoration and enhancement across 55,000ha of Dunedin's North Coast landscape, stretching from North Dunedin to Waikouaiti. Called 'Beyond Orokonui' the management strategy seeks to integrate multiple community objectives for the project area (enhancement of ecosystems, protection of native biodiversity, support of agriculture and local livelihoods, connection of people to their place), identifying priority actions that will have a wide range of benefits for the community and the environment.

Our current priority is the development of the **Halo Project** – a community-run predator control programme on both private and public land surrounding Orokonui Ecosanctuary. Community engagement has demonstrated strong community support for this initiative. You can find out more about the project here. We are grateful for the support of the Otago Regional Council for the Halo Project by way of a significant Environmental Enhancement Fund grant, which has assisted us greatly with the capital costs associated with the Inner Halo. As of April 2018, we have 327 mustelid trapping devices deployed across 2493 ha, with 1407ha remaining to complete the Inner Halo network. We currently have a high trapping density, at 1.3 traps per 10ha. In most places, our trap network is manned ongoing by Trust volunteers. We are now moving into urban areas around Port Chalmers, working in partnership with OSPRI.

A focus for the Trust is planning for the eventual departure of OSPRI's possum control programme from the West Harbour – we would like to maintain the gains the programme has made. We believe that our professionally-managed, multi-species approach to predator control operations provide substantial ecological benefits for Dunedin, and our growing network of volunteers (and developing support systems) grounds our efforts firmly in the community.

Other priority projects for the Trust include **re-establishing breeding seabird colonies** and working with landowners to restore **remnant coastal forest ecosystems**.

Overall comment

LCT commends the work programme underway to establish a Biodiversity Strategy for the region. Due to timeframes involved, this submission has been developed at an operational level and has not been signed off by LCT trustees.

Context

There is scope within the Strategy for explaining to the public what the Otago Regional Council is (and isn't) currently doing in relation to biodiversity, and what the regulatory environment is. Emphasis can then be placed on how implementation of the Biodiversity Strategy will improve on the current situation, and lead to tangible positive outcomes for biodiversity in Otago.

Specifically, the Strategy would benefit from developing:

- the current situation in the district, the cultural importance of biodiversity, the causes of biodiversity loss, the vision, and the goals, targets and actions required to achieve that vision.
- the context, which addresses the legal duties of regional councils, the state and trend of biodiversity nationally and globally, and the barriers that prevent positive action to protect indigenous biodiversity.

Climate change

We support the principle of considering the current and potential future impacts of climate change on indigenous biodiversity.

Role differentiation

The Draft strategy states that ORC will employ a Biodiversity Coordinator within a year to "…drive strategy implementation". However, the Strategy does not differentiate between the roles and responsibilities of the Biodiversity Coordinator and those of the broader Council team.

This leads to some lack of clarity around the role of the Biodiversity Coordinator. For example, the "Regulatory" actions (pg 16) include "Administer and review the Regional Pest Management Plan". While it is encouraging to see the potential for a greater focus on managing the effects of pests on indigenous biodiversity, the current wording implies that the administration and revision of the RPMP will be the responsibility of the Biodiversity Coordinator (as opposed to the Pests team). Other actions listed in this section raise similar questions.

Key issues (page 8):

Where we are	**Where we want to be**
The sustainability of indigenous species is at risk from predators and pests.	The impact of pests on indigenous species is ~~reduced~~ managed.
~~Some unique habitats of flora and fauna have been lost, reduced in size, or degraded through human activities.~~ Historic and contemporary land use change has and continues to result in the loss and degradation of indigenous ecosystems.	The extent and integrity ~~life-supporting capacity~~ of indigenous ecosystems ~~habitat~~ is protected and enhanced.
~~There is risk of gaps and overlaps due to the large number of agencies working in biodiversity throughout Otago. This can result in inefficiencies if not well coordinated.~~	~~Biodiversity efforts of stakeholders and communities are coordinated~~ Communities are aware of and celebrate the activities of individuals and non-

The work of individuals and non-governmental organisations in the protection of indigenous biodiversity is not well recognised or promoted.	governmental organisations who protect indigenous biodiversity.
~~Limited funding constrains the viability and effectiveness of projects~~ Funding and support mechanisms for biodiversity protection are not well understood. This leads to inequity in funding disbursement.	People are aware of opportunities for funding biodiversity protection, and these initiatives are prioritised and key projects are adequately resourced.
~~Ecosystems services are not well understood, which can lead to inadequate protection and neglections (sic).~~ Land managers may be unaware of the significance of the indigenous biodiversity values that exist within their production systems, potentially leading to biodiversity loss.	~~People are aware of ecosystem services and understand how to look after them~~ Land managers perceive indigenous biodiversity values within their production systems as an asset, and are supported to manage those values.
~~There are information gaps about ecosystems and indigenous biodiversity in Otago. This leads to people doing things without knowing the impact it may have. It can also impact on the effectiveness of biodiversity projects~~ The status and trend of biodiversity values in the Otago region are poorly understood.	Organisations and communities have good information and understanding about Otago's biodiversity.
Climate change is likely to impact on the health and distribution of species. Pests will spread to new areas, habitats will change, and indigenous species may need to migrate	Potential impacts from climate change are understood and prepared for.

Outcomes

1) All indigenous species and ecosystems are maintained across their natural distribution.
   a) Indigenous species are not at significant risk from pests
   b) Potential impacts from climate change are understood and prepared for
   c) Habitat fragmentation is avoided ~~minimised~~ and ecological corridors are maintained or enhanced.
   d) The extent and life-supporting capacity of significant indigenous vegetation and significant habitat of indigenous fauna ~~habitat~~ is ~~maintained~~ protected.

Notes:
Outcome 1 of the Draft Biodiversity strategy requires the protection of all indigenous biodiversity. It may not be the intention, but the wording of this outcome implies that non-local indigenous species, such as the invasive North Island *Coprosma repens* that smothers areas of the Dunedin coast around lawyers head should be protected.

1 (c) should be changed to read “avoided” rather than “minimised”. “Habitat fragmentation” is synonymous with “habitat loss”, and therefore contradicts the intention of 1 (d) in its current form.
1 (d) should be changed to read “significant indigenous vegetation and significant habitat of indigenous fauna” rather than “habitat” to reflect Section 6(c) of the RMA, and in recognition that the term “habitat” is a broad reaching term that includes areas of low value for indigenous species.

2) Threatened indigenous species and ecosystems are protected and enhanced.
    a) Biodiversity efforts of stakeholders and communities are coordinated and synergistic
    b) Opportunities to get involved in biodiversity management exist and are well known about

Explanation:
Outcome 2 in its current form sets an unattainable outcome (enhancing all threatened species and ecosystems), and replicates the essence of Outcome 1. Most populations of threatened species in the Otago region are either static or in decline. Section 6(c) of the RMA states that protecting these species and ecosystems is a matter of national importance, therefore the protection of these values should be a higher order priority than their enhancement.
The coordination of stakeholders and promotion of biodiversity management opportunities (targets 2(a) and 2(b) are commendable goals, however they are only peripherally related to halting the decline of threatened indigenous species and ecosystems in Otago.

What does ORC propose to do?

- Administer and promote the Environmental Enhancement Fund – an ORC fund that supports groups and land managers working to protect indigenous biodiversity to achieve good environmental outcomes
- Support community groups by promoting their work and providing expert advice and connections
- Support region-wide education programmes, including Enviroschools
- Administer and review the Regional Pest Management Plan

Explanation:
We support these actions insofar as they will achieve support for groups working in the community (and on the ground) to promote achieve conservation outcomes.
We suggest inserting “and promote” into the action relating to the Environmental Enhancement Fund. Promotion and pro-actively targeting groups and projects eligible for funding is likely to be a more successful approach than passively accepting applications.
Insert “and land managers”. There is some support for the work of non-governmental organisations carrying out work on public land, whereas the opportunities for private landowners to seek financial support are very limited.
LCT was very grateful to be the recipient of a substantial grant from the Council’s Environmental Enhancement Fund, which greatly assisted the Trust to commence its work on the Halo Project.
We anticipate that the criteria for the Environmental Enhancement Fund will be refined through the development of the Biodiversity Strategy. Operational costs are some of the most difficult to fund for organisations working in the conservation sector, particularly costs associated with staff or contractor time.

We request that consideration should be given to making explicit provision in the Environmental Enhancement Fund criteria for the funding of operational costs. While the criteria as listed do not preclude this, it seems to us that the Council is not currently envisaging the Fund being applied in this way.
We submit that there will be a need to grow this Fund, to support the level of environmental protection and restoration work that communities are expecting, and to achieve the outcomes outlined in the draft Strategy. Below, we refer to the example of the Waikato Regional Council, who has an annual budget of $1.25-1.35M earmarked for similar purposes.
We request that Council consider a staged increase to the Environmental Enhancement Fund budget, planned and implemented over a number of years.
Please see Appendix 1 for a case study of the Waikato Regional Council's approach to a similar funding pool.

- Develop regional plans to give effect to, and ~~E~~ensure ~~regional and~~ district plans give effect to, the biodiversity outcomes sought in the Regional Policy Statement for Otago

Explanation:
Distinguish between the direct role the regional council has in developing regional plans, and the indirect role it has in engaging with the developing of district plans.

- Hold a regional biodiversity forum to discuss activities and opportunities and celebrate success
- Partner with city and district councils, Kāi Tahu, DOC, and other organisations on key projects
- Establish regional biodiversity liaison group and Technical Working Party to align and co-ordinate biodiversity projects
- Employ a biodiversity coordinator to act as a central point of contact and drive strategy implementation
- Develop a spatial plan showing biodiversity outcomes sought, values, protected areas, and planned initiatives

Explanation:
We support these initiatives as a means of the Otago Regional Council taking more leadership in environmental strategy. This has been left to territorial local authorities, when there is a clear need for regional leadership on a number of fronts. In particular, we are supporting of the need for a spatial plan. However, we note that the Dunedin City Council has similar actions listed in Te Ao Tūroa | Dunedin's Environment Strategy. We request close liaison with councils to ensure that there is no duplication of effort and resource.

- Undertake research on key biodiversity matters, including:
  - Issues with a high biodiversity risk and insufficient information
  - Regional pest management opportunities
  - Potential climate change effects and responses
- Undertake residents' surveys on biodiversity outcomes, perceptions and practices
- Develop indicators to assess the effectiveness of ORC's actions relating to biodiversity and report on these on a regular basis

Explanation:
We support the Otago Regional Council's proposals insofar as they propose to monitor and report on biodiversity baselines. We suggest an alternative would be to creating a

framework to which territorial local authorities could report e.g. by way of compilation of a regular 'State of the Otago's Environment' report.

Other points

We note that it will take a substantial shift in the status quo to stem the loss of biodiversity in the district. While we are supportive of a number of the actions outlined in the document, it does not appear that they represent the kind of step-change in Otago Regional Council activity that will be required to achieve the outcomes sought. This will take big, bold thinking. For example, in pre-Strategy consultation, we recommended considering the establishment of a fund and process to develop a **network of Regional Parks**, as in Auckland/Canterbury, along key ecological corridors. While this may not be supported, we submit it will take thinking at this kind of scale to achieve the vision outlined by this document.

Appendix 1 – the Waikato Regional Council's Natural Heritage Partnership Programme
(drawn from WRC's *Natural Heritage Partnership Programme Funding Policy*)

- The Waikato Regional Council's Natural Heritage Partnership Programme is funded through a natural heritage targeted rate of $5.80 per property across the region. This generates total revenue of $1.1-1.2 million per annum, which is allocated primarily to an Environmental Initiatives Fund (for project grants $5000 to $40,000), and a Natural Heritage Fund (for project grants over $40,000).

- Unspent funds are put into a reserve and made available once suitable projects are approved, meaning the total budget each year comprises the year's rates revenue plus the previous year's closing reserve balance.

- The allocation between different grant pools is determined each year by the Council as part of Council's Annual Plan process. The Council's Policy states, as a guide, that the annual allocation is projected to be approximately:
* Natural Heritage Fund - $850,000 per annum
* Environmental Initiatives Fund (EIF) - $250,000
* Enviroschools Grant Fund - Up to $25,000 per year from the EIF (for schools)

- There is provision for large, significant NHF projects to be funded in part through internal borrowing if required. This allows Council to leverage a small, per property rate into larger sums that can be repaid over time.

- Staff time spent in administering the funds is drawn from the total natural heritage rate revenue, which reduces the amount available for grants accordingly.

- There is an additional fund, the Small Scale Community Initiatives Fund, for project grants under $5000. This is sourced from the uniform annual general charge (also a targeted, per property rate) with a fixed allocation of $150,000 per annum. This is the total amount available for grant allocation - staff time for administering these grants is additional to this and is also drawn from the UAGC.

- In total, therefore, the Waikato Regional Council directly rates property owners to provide $1.25-1.35M of grants that support community-led biodiversity protection and environmental enhancement work.

- A wide range of entities are elligible to apply for funding, including community groups, iwi/hapu, kaitiaki groups, incorporated societies, community trusts, resident and ratepayer groups, territorial authorities, landowner groups (e.g. Landcare or Streamcare groups), educational institutions, businesses and industries.

- Importantly, the funds support the operational costs organisations involved in conservation work, including bait and labour. They also support the purchase of land for conservation purposes.

ORC Ref:
07

11 May 2018

Otago Regional Council
Private Bag 1954
Dunedin, 9054
dale.meredith@orc.govt.nz

Submission on the Otago Regional Council's Draft Biodiversity Strategy 2018

This submission is made on behalf of the Otago Fish and Game Council. If there is an opportunity to do so, the Council would be pleased to discuss the matters it has raised further.

Thank you for your consideration of the Council's input.

Submitter Details

Contact person: Nigel Paragreen, Environmental Officer
Email: nparagreen@fishandgame.org.nz
Office phone: 034779076
Postal address: PO Box 76, Dunedin 9016

N. Paragreen ..... 11 May 2018 .....

[1] The Otago Fish and Game Council ('Fish and Game') is the statutory manager of sports fish and game bird resources within Otago. It has a duty to manage these species as well as advocate for the protection of their habitats and the interests of hunters and anglers in planning processes.

[2] As part of this role, Fish and Game provides this submission on the Otago Regional Council ('ORC') Draft Biodiversity Strategy ('the strategy').

[3] Fish and Game have a management responsibility for a range of native and introduced species within the Otago Region. These species are public resources and are protected under the Wildlife Act (Schedule 5) for game birds and the Conservation Act (Schedule 1, Freshwater Fisheries Regulations) for sports fish. These are:

a. Black swan (*Cygnus atratus*)
b. Chukar (*Alectoris chukar*)
c. Australasian shoveler (*Anas rhynchotis*)
d. Grey duck (*Anas superciliosa*), and any cross of that species with any other species, variety, or kind of duck
e. Mallard duck (*Anas platyrhynchos*), and any cross of that species with any other species, variety, or kind of duck
f. Paradise shelduck (*Tadorna variegata*)
g. Grey partridge (*Perdix perdix*)
h. Red-legged partridge (*Alectoris rufa rufa*)
i. any bird, not being a domestic bird, of the genus *Phasianus* and any cross of any such bird with any other species, variety, or kind of pheasant
j. Pukeko (*Porphyrio melanotus*)
k. Bobwhite quail (*Colinus virginianus*)
l. Brown quail (*Coturnix ypsilophora*)
m. California quail (*Callipepla californica*)
n. Brown trout (*Salmo trutta*)
o. Rainbow trout (*Oncorhynchus mykiss*)
p. Perch (*Perca fluviatilis Linnaeus*)
q. American brook char (*Salvelinus fontinalis*)
r. Chinook salmon (*Oncorhynchus tshawytscha*)
s. Sockeye salmon (*Oncorhynchus nerka*)
t. Tench (*Tinca tinca*)
u. Atlantic salmon (*Salmo salar*)
v. Lake trout or char (*Salvelinus namaycush*)

[4] It's important to emphasise the high value placed on sports fish and game birds by the community. Not only are there some 24,300 individual fishing licences and 4,629 game licences sold in Otago each year but also many residents and visitors derive enjoyment from just seeing them in the wild.

[5] Fish and Game manages species and ecosystems by monitoring populations; managing harvest pressure through regulations; undertaking and publishing research; purchasing and conserving habitat; and advocating for the protection of habitat through planning mechanisms. Nearly all funding for these activities comes from game and fishing licences sales, at no cost to the tax payer.

[6] There are wide public interest benefits from sports fish and game bird management activities because they take place across large swathes of Otago. Ecosystems identified in the appendix of the draft strategy in which one or more Fish and Game managed species may reside includes:

a. Tussock grassland and shrubland
b. Inland outwash plains
c. Wetlands
d. Rivers and Lakes
e. Estuaries
f. River mouth and receiving coastal water
g. Shallow subtidal area
h. Deep subtidal habitats

[7] Fish and Game takes a holistic, ecosystem based approach to species management. It considers that a healthy and diverse ecosystem is critical to ensuring resilience and productivity. While anglers and hunters only hunt specific game birds and sports fish, conservation and environmental management activities undertaken by Fish and Game benefit many species across a wide variety of ecosystems.

[8] In our present day landscapes, modified by all manner of human interventions, ecosystems are a complex mix of indigenous and introduced species which feed on each other. Trout eat smaller fish (including their own kind) and terrestrial and aquatic insects but they are not the only predator. Eels also eat insects and smaller fish including trout, shags, herons, crested grebes and kingfishers eat fish including trout and so on. Introduced and indigenous species have become interdependent. Introduced plants also deserve recognition in providing habitat for indigenous species – eels like willow lined streams, whitebait spawn in introduced grasses.

[9] Species interactions rarely require interventions except where a species is at risk – rare non-migratory galaxiids for example. Fish and Game supports conservation of threatened species and, where undesirable species interactions involve game birds or sports fish, work collaboratively to find solutions. A memorandum of understanding has been signed between Fish and Game and the Department of Conservation ('DOC'), which guides the two organisations in working together on these issues.

[10] Because it is a crown organisation with a wide scope of environmental management activities, including the direct management authority over several introduced and native species, Fish and Game sees itself as a key player in managing Otago biodiversity. However, Fish and Game is the only statutory body actively managing wild species in Otago which is not specifically identified in the biodiversity strategy. This is a clear oversight and no justification for this decision is made.

[11] Fish and Game is supportive of the generalised outcomes desired for indigenous species and it believes that valued introduced species should share similar desired outcomes. Brown trout, rainbow trout, chinook salmon, California quail and mallard ducks are high profile introduced species which play a large role in the lives of many Otago residents. These species require careful management and this can be achieved without risking other objectives in the strategy, such as the enhancement of threatened indigenous species and ecosystems.

[12] Initiatives like the memorandum of understanding between Fish and Game and DOC take a holistic ecosystem approach and recognise the interconnectedness of indigenous and valued introduced species, while enabling and encouraging conservation efforts.

[13] Otago residents expect their statutory management organisations to work together harmoniously to manage the species they value in the region. Because this strategy provides guidance on how biodiversity will be managed in the region, it can enable and enhance collaborative efforts such as the Fish and Game/DOC memorandum or disincentivise them. Therefore, it's critical that the strategy reflects the actual values of Otago residents.

[14] By excluding valued introduced species, the strategy does not reflect the varied and complicated values of Otago's residents. More practically, it would actively discourage the harmonious managing biodiversity in Otago by community and statutory organisations. This is in direct opposition to the guiding principles of the strategy. Fish and Game requests that this oversight be corrected by including valued introduced species within the strategy.

[15] Something also worth considering is the global conservation value of an introduced species in New Zealand, when it is at risk or extinct in its home range. The recent interest of the Native American Winnemem Wintu people in New Zealand chinnook salmon, because they may be a lost strain in their native California, makes this New Zealand population valuable conservation resource globally.

[16] In addition, Fish and Game also has identified a number of general errors in the appendix of the strategy which it would recommend changing. These are set out in the table below:

Appendix Entry	*Issue*	*Recommended correction*
Rivers and lakes	- Key species do not include waterfowl which are present and a key part of the ecosystem. - Threats do not include: habitat loss due to abstraction; nutrient and sediment runoff; wastewater discharges and urban pollution. Without these the document misrepresents the impact of predation, implying that most damage to indigenous populations is done by predators, which is woefully inaccurate.	Amend to include the suggested points.
Estuaries	- Key species do not include waterfowl which are present and a key part of the ecosystem.	Amend to include waterfowl.
River mouths and receiving coastal water	- Key species do not include waterfowl and fish which are present and a key part of the ecosystem.	Amend to include waterfowl and fish.
Biogenic and deep sub-tidal habitats	- Key species do not include fish which are present and a key part of the ecosystem.	Amend to include fish.

[17] Fish and Game requests the following changes be made to the draft before adoption by the ORC:

a. Identify Fish and Game as an organisation which the ORC will partner with to achieve the desired outcomes of the strategy;
b. Identify valued introduced species to include at least those discussed in [3] and amend desired outcome 1 as such: *All indigenous species, valued introduced species and ecosystems are maintained*;
c. Amend desired outcome 1 to reference the Otago Pest Plan specifically when discussing pests; and
d. The changes listed in [13] are made to the appendix.

[18] Fish and Game is supportive of all other aspects of the strategy, particularly the guiding principles.

SUBMISSION ON OTAGO REGIONAL COUNCIL BIODIVERSITY STRATEGY

TO: Otago Regional Council

Private Bag 1954

Dunedin 9054

Name of submitter: Shaping Our Future Inc

This is a submission on the Otago Regional Council ("the Council") Biodiversity Strategy and applies to the Queenstown Lakes District.

Shaping our Future Inc was founded in 2011 by a group of leading Queenstown Lakes residents. Our Board and Taskforce members are volunteers working towards achieving our 2011 created long term community vision of *"Spectacular environments, enterprising people, exceptional solutions"*

We aim to give every person in the community a voice in shaping the future of our district for future generations, not just our children, but grandchildren and beyond. We are independent and apolitical with a process not constrained by single interest groups.

The Shaping our Future process includes public forums and online engagement, the formation of a volunteer taskforce to refine and establish a vision, goals and objectives within a strategic report that is then taken back to the public for ratification prior to being implemented.

Applications and Reference (engagement numbers in brackets):

1. Shaping our Future Upper Clutha Conservation Report 2015 (80)
2. Shaping our Future Water Forums 2018 (in progress) (200)

The Upper Clutha Conservation Report included a section on Biodiversity in the Upper Clutha supporting collaboration, cohesion and a district wide approach to biodiversity. The key recommendations included:

- **Regional and District Biodiversity Strategies will be operative within 3 years.** The District Strategy will give effect to the regional strategy and the National Biodiversity Strategy but will have district-specific objectives. The district strategy will deliver objectives that are tangible and measurable on an annual plan basis
- **A District Plan that is well aligned with and promotes the objectives of other statutory tools.** - water & air plans (6a water quality, 6b town water), the Regional Pest Management Strategy, the Otago Conservation Management Strategy (DOC) Ngai Tahu (regional plan) 2025. Such a district plan would align current plans and fill in the gaps. The ORC Regional Policy Statement will be instrumental ensuring this happens within the next 18 months.
- **QLDC policy and environmental management gives affect to the district biodiversity strategy**. Individual plans eg reserves management plans will all link into the wider strategy within 5 years.
- **ORC and QLDC to be leaders in conservation management by example on the water and land they manage**. In 10 years time, conservation is integrated into all aspects of local and regional government and the community is fully engaged in this process.

Further details on the biodiversity section of the Upper Clutha report is available online at www.shapingourfuture.org.nz

In April 2018 Shaping our Future consulted with over 200 residents and 800 primary and secondary school children on the current challenges, values, goals and objectives for freshwater in the Queenstown Lakes District. Consultation was through two public forums (Queenstown and Wanaka), online and direct with schools in the district.

Please note the information provided below is the raw data from our forum, volunteer taskforces will be working through the next six months to refine and define the information and recommendations. The following is a summary of the information received as it relates to our waterways and biodiversity:

Key Values – respondents identified the following key values and measures for the future of freshwater (full results available at www.shapingourfuture.org.nz).

Ecology
Resilient, healthy waterways that support biodiversity – some measures might include:

- No algae blooms
- Return of birdsong, habitat restoration (Riparian), sustains a healthy and diverse ecosystem.
- Wetland extent returned to 80% of original
- Rivers kept close to natural hydrology % MALF and variability
- Solve biosecurity issues e.g. Lake Snow, Didymo
- All lakes to have a trophic level 2 or less & to exceed MFE National Objective Framework

Strategic Management
- Collaboration to manage water supply – our rivers, reservoirs, biodiversity.

Research and Monitoring
Continuous and effective monitoring of freshwater quality and quantity including:

- Minimum flows
- Contamination – chemicals, run off
- Scientifically measurable
- Identify trends and warning signs
- Continuous research – biological markers and indicators
- Action from monitoring – communication, remediation, research

Summary:

- Shaping our Future supports the development of a comprehensive biodiversity plan for the Queenstown Lakes District with a focus on collaboration, research and monitoring, communication and community input.
- Support for continued research, monitoring and efforts to address and reduce the impact of introduced species on our environment eg Lake snow, causes of algae blooms
- Support work to improve our freshwater biodiversity and ecosystems.

Shaping Our Future
Alastair Porter, Chair, Shaping our Future
Contact: executive@shapingourfuture.org.nz or 021 222 1231
Date: 09/05/2018

ORC Ref:
09

From: victoria bonham [mailto:gallowaylodge@outlook.com]
Sent: Friday, 11 May 2018 4:45 p.m.
To: Info
Subject: Biosecurity Strategy Plan - comments

Att Phil Batrix

Sorry to have to email my comments on the Biosecurity Strategy Plan , after not being able to to submit on line or contact anyone by phone I finally , was given your email address to send my comments to .

My name is Victoria Bonham and I have been a Central Otago resident for most of my life , I am a business owner on a rural property in Alexandra and am an elected member on the District Council .

Over the recent years I have noticed a drastic decline in many of our animal fish and bird species in our area .

It is hardly ever one would ever see a skink or gekko , our dams are no longer humming with the croaking of frogs , our rivers are empty our eels are gone .

The alarming and very noticeable deterioration of our wildlife and habitats is unacceptable . The management of our bio diversity is not only inadequate but often responsible for the damage that we are witnessing . If we continue to interfere and mismanage our natural heritage it will continue decline in an increasing manner till eventually it will no longer be able to sustain any life at all including us .

I believe the information and propoganda made available by our govt departments and their subcontractors to the public is very one sided and geared toward a pre determine out come . This outcome and agenda is money and industry driven and does not prioritise the well being of our environment and well being of our wildlife .

I do not believe our environment can begin to recover if you do NOT STOP THE POISONING NOW . The poisoning of our land , rivers and wildlife is killing our environment and its ability to sustain life , millions of animals die needlessly in the most vile and excrutiating way possible , giving way to on going secondry poisoning . Our Clean Green Image and our bio security is just a commercial farce .

I ask you please

1-STOP Poisoning in the name of Pest management and Bio diversity - NO 1080 or brodificaum or pindone

2-Allow proper public debate and discussion by welcoming groups that support non poisoning alternatives and their research and strategy plans as stake holder and contributors

3-Support Eco Fur incentives and non poisoning animal management programmes only where there is an identified problem

4-That proper pre and post monitoring be undertaken before animal management is considered . Where there is no identified problem the area should be left alone to recover naturally

5 - No more draining of marshlands for walk ways

6 - Programmes encouraging children to appreciate nature and learn compassion for animals should be nurtured

7 - Remove the word PEST!!! and treat all animals with respect

Thankyou for your time

I look forward to your reply

Kind Regards

Victoria Bonham
0275098041

Thankyou

Feedback on the Draft Otago Regional Biodiversity Strategy

On behalf of the Waitaki District Council

General comments

Thank you for the opportunity to comment on the Draft Otago Regional Biodiversity Strategy (the Strategy). It is commendable that Otago Regional Council has taken the steps to facilitate the development of the Strategy. Waitaki District Council has found its own Waitaki Indigenous Biodiversity Strategy to be a valuable tool for focussing efforts and resources in the biodiversity space, both for Council staff and members of the wider community. The Otago Biodiversity Strategy can also serve this function. The following paragraphs outline some suggestions to achieve this end.

Issue 1: Context

There is scope within the Strategy for explaining to the public what the Otago Regional Council is (and isn't) currently doing in this space and what the regulatory environment is. Emphasis can then be placed on how implementation of the Biodiversity Strategy will improve on the current situation, and lead to tangible positive outcomes for biodiversity in Otago.

For example, the strategy could further develop:

- The current situation in the district, the cultural importance of biodiversity, the causes of biodiversity loss, the vision, and the goals, targets and actions required to achieve that vision.
- The context; which addresses the legal duty of local government, the state and trend of biodiversity nationally and globally, and the barriers that prevent positive action to protect indigenous biodiversity.

Issue 2: Climate Change

We support the principle of considering the current and potential future impacts of climate change on indigenous biodiversity.

Issue 3: Distinguishing responsibilities of regional and local government.

Please include some details about how the Otago Regional Council will support TLAs to achieve their obligations under Section 31(1)(b)(iii) of the RMA; controlling the effects of land use on indigenous biodiversity, and Section 6(c); protecting significant natural areas.

Actions relevant for a Regional Council trying to better understand biodiversity across an entire region might include:

1. Supporting Territorial Authorities to identify, survey and map Significant Natural Areas.

This is a huge task, requiring expertise (such as GIS) that is limiting for smaller Councils.

2. Supporting Territorial Authorities to develop programmes that facilitate the monitoring of Otago's Indigenous Biodiversity.

Environmental monitoring is an important function of local government under the RMA (1991) and the Local government act (2002), and includes monitoring the outcomes of district plan provisions for the protection of indigenous biodiversity. Monitoring data is already available and will become

increasingly available from Territorial Authorities and other government departments in the near term. It is important this data is curated responsibly and is as standardised as possible.

Issue 4. Role differentiation

The Draft strategy states that ORC will employ a biodiversity coordinator within a year to "…drive strategy implementation". However, the Strategy does not differentiate between the roles and responsibilities of the Biodiversity Coordinator and those of the broader council team.

This leads to some lack of clarity around the role of the biodiversity coordinator. For example, the "Regulatory" actions (pg 16) include "Administer and review the Regional Pest Management Plan". While it is encouraging to see the potential for a greater focus for the managing the effects of pests on indigenous biodiversity, the current wording implies that the administration and revision of the RPMP will be the responsibility of the Biodiversity Coordinator (as opposed to the pests team). Other actions listed in this section raise similar questions.

Issue 5: file size

Compared to biodiversity strategies from other Regional Council the Otago Draft Strategy is relatively content light and image heavy. While it is a very attractive document, consider that an image-heavy consultation document leads to unnecessarily large files (40 Mb) that may preclude members of the community with limited internet connection from accessing it.

Issue 6: Longevity

I could not find an indication for the review period of the Otago Biodiversity Strategy. I suggest a review in 2019 once the Biodiversity coordinator has been appointed.

Summary

The overall tone of the Draft strategy is a positive one, and it is very encouraging to see more attention in the biodiversity space from ORC. Consideration should be given to commissioning a review of the document by an ecologist and/or planner to ensure the correct use of terminology and ensure consistency between the strategy and the relevant regulation, and to provide scientific references to support the assertions made in the document. Examples of these can be provided on request.

Appendix: Targeted comments

The following section takes excerpts from the Draft Otago Biodiversity Strategy and makes some suggestions for rewording (in italics).

Pg 1.

No comment

Pg 2.

Remove hi-def photo?

Pg 3.

[Summary page – desired changes addressed in detail on following pages]

Pg 4.

No comment

Pg 5.

No comment

Pg 6

No comment

Pg 7.

No comment

Pg 8.

Key issues

Where we are	Where we want to be
The sustainability of indigenous species is at risk from predators and pests.	The impact of pests on indigenous species is ~~reduced~~ *managed*.
~~Some unique habitats of flora and fauna have been lost, reduced in size, or degraded through human activities.~~ *Historic and contemporary land use change has and continues to result in the loss and degradation of indigenous ecosystems.*	The extent and *integrity* ~~life-supporting capacity~~ of indigenous ecosystems ~~habitat~~ is protected and enhanced.
~~There is risk of gaps and overlaps due to the large number of agencies working in biodiversity throughout Otago. This can result in inefficiencies if not well coordinated~~. *The work of individuals and non-governmental organisations in the protection of indigenous biodiversity is not well recognised or promoted.*	~~Biodiversity efforts of stakeholders and communities are coordinated~~ *Communities are aware of and celebrate the activities of individuals and non-governmental organisations who protect indigenous biodiversity.*

~~Limited funding constrains the viability and effectiveness of projects~~ *Funding and support mechanisms for biodiversity protection are not well understood. This leads to inequity in funding disbursement.*	People are aware of opportunities for funding biodiversity protection, and these initiatives are prioritised and key projects are adequately resourced
~~Ecosystems services are not well understood, which can lead to inadequate protection and neglections (sic).~~ Land managers may be unaware of the significance of the indigenous biodiversity values that exist within their production systems, potentially leading to biodiversity loss.	~~People are aware of ecosystem services and understand how to look after them~~ Land managers perceive indigenous biodiversity values within their production systems as an asset, and are supported to manage those values.
~~There are information gaps about ecosystems and indigenous biodiversity in Otago. This leads to people doing things without knowing the impact it may have. It can also impact on the effectiveness of biodiversity projects~~ The status and trend of biodiversity values in the Otago region are poorly understood.	Organisations and communities have good information and understanding about Otago's biodiversity.
Climate change is likely to impact on the health and distribution of species. Pests will spread to new areas, habitats will change, and indigenous species may need to migrate	Potential impacts from climate change are understood and prepared for.

Pg 9.

[Summary page – desired changes addressed in detail on following pages]

Pg 10.

Outcomes

1) All indigenous species and ecosystems are maintained *across their natural distribution*.
   a) Indigenous species are not at significant risk from pests
   b) Potential impacts from climate change are understood and prepared for
   c) Habitat fragmentation is *avoided* ~~minimised~~ and ecological corridors are *protected and* ~~maintained or~~ enhanced
   d) The extent and life-supporting capacity of *significant indigenous vegetation and significant habitat of indigenous fauna* ~~habitat~~ is maintained.

Section 6 of the Resource Management Act includes provisions for the protection of indigenous biodiversity. It states: "all persons exercising functions [under the Act]… shall recognise and provide for the following matters of national importance: (c) the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna"

Outcome 1 of the Draft Biodiversity strategy therefore places a larger burden by requiring the protection of all indigenous biodiversity. It may not be the intention, but the wording of this outcome implies that non-local indigenous species, such as the invasive North Island *Coprosma repens* that smothers areas of the Dunedin coast around lawyers head should be protected.

1(c) should be changed to read "avoided" rather than "minimised". "Habitat fragmentation" is synonymous with "habitat loss", and therefore contradicts the intention of 1(d) in its current form.

1(d) should be changed to read "significant indigenous vegetation and significant habitat of indigenous fauna" rather than "habitat" to reflect Section 6(c) of the RMA, and in recognition that the term "habitat" is a broad reaching term that includes areas of low value for indigenous species.

2. Threatened indigenous species and ecosystems are *protected and*-enhanced.
    a. Biodiversity efforts of stakeholders and communities are coordinated and synergistic
    b. Opportunities to get involved in biodiversity management exist and are well known about

Outcome 2 in its current form sets an unattainable outcome (enhancing all threatened species and ecosystems), and replicates the essence of Outcome 1. Most populations of threatened species in the Otago region are either static or in decline. Section 6(c) of the RMA states that protecting these species and ecosystems is a matter of national importance, therefore the protection of these values should be a higher order priority than their enhancement.

The coordination of stakeholders and promotion of biodiversity management opportunities (targets 2(a) and 2(b) are commendable goals, however they are only peripherally related to halting the decline of threatened indigenous species and ecosystems in Otago.

3. People are aware and proud of Otago's Biodiversity
    a. Organisations and communities have good information and understanding of Otago's biodiversity
    b. Biodiversity contributes to Otago's reputation and sense of place.

No comment

4. Kai Tahu's role as kaitiaki is acknowledged and supported
    a. Kai Tahu are ORC's Treaty partner in Biodiversity management
    b. The importance of maika kai and taoka species to Kai Tahu is widely understood
    c. Mahika kai and taoka species are *protected and* enhanced

4(c) insert "protected and" to reflect the same issues identified in the above paragraphs concerning 1(c).

5. Otago's biodiversity adds value to the regional economy.

    - Otago's biodiversity is used to market our products
    - Ecosystem services are maintained or enhanced
    - Biodiversity contributes to Otago's reputation and sense of place

No comment.

Pg 15-16.

What does ORC propose to do?

1. Leadership and collaboration

    - Hold a regional biodiversity forum to discuss activities and opportunities and celebrate success. (every two years)
    - Continue partnering ~~Partner~~ with city and district councils, Kai Tahu, DOC, and other organisations on key projects. (Project basis)

Insert “Continue partnering”.

    - Establish regional biodiversity liaison group and technical working party to align and co-ordinate biodiversity projects (within two years)
    - Administer *and promote* the Environmental Enhancement Fund – an ORC fund that supports groups *and land managers* working to *protect indigenous biodiversity* ~~achieve good environmental outcomes~~ (Ongoing)

Insert “and promote”. Experience and anecdotal evidence suggests that grant programs such as the Environmental Enhancement Fund are generally undersubscribed throughout New Zealand. Promotion and pro-actively targeting groups and projects eligible for funding has proven to be a more successful approach for the Waitaki District Council than passively accepting applications.

Insert “and land managers”. Many funding agencies already support the work of non-governmental organisations carrying out work on public land, whereas the opportunities for private landowners to seek financial support are very limited.

Remove “achieve good environmental outcomes”. This is a very broad remit and difficult to quantify. Recommend that the wording is changed to read “protect indigenous biodiversity”.

    - Employ a biodiversity coordinator to act as a central point of contact and drive strategy implementation.

Support this item.

- Education and Information Sharing

    - Provide information on biodiversity management, including good management practices for indigenous biodiversity and the importance of ecosystem services (ongoing).
    - Support region-wide education programmes, including Enviroschools (ongoing).
    - Develop and maintain an online portal to:
        - Share information and resources on biodiversity (ongoing)
        - ~~Provide a forum for discussions within a between communities (ongoing)~~
        - Provide up-to-date information about funding opportunities for biodiversity protection and enhancement.

Several platforms for information sharing and discussion already exist, including naturespace.org.nz, which is funded by central government. It is doubtful that ORC could develop and maintain a platform of similar quality.

- Monitoring and Research
    - Undertake research on key biodiversity matters, including:
        - Issues with a high biodiversity risk and insufficient information
        - Regional Pest management opportunities
        - Potential climate change effects and responses
    - Develop a spatial plan showing biodiversity outcomes sought, values, protected areas, and planned initiatives.(within three years)
    - Undertake a residents' survey on biodiversity outcomes, perceptions and practice. (Every five years)

It is unclear from these points around "monitoring and research" which responsibilities fall within the remit of the biodiversity coordinator, the wider council team, and which will be outsourced. Can you please provide more clarity around this?

- Regulatory
    - Administer and review the Regional Pest Management Plan (Ongoing)
    - Ensure regional and district plans give effect to the biodiversity outcomes sought in the Regional Policy Statement for Otago (ongoing)
    - Manage effects of activities on coastal and freshwater biodiversity through resources consent processes (Ongoing)
    - Develop indicators to assess the effectiveness or ORC's actions relating to biodiversity and report on these on a regular basis (Every five years)

Again, it is unclear which, if any, of these regulatory functions of Council are the responsibility of the Biodiversity Coordinator.

Pg 17-18.

No comment.

From: Alan Mark [mailto:alan.mark@otago.ac.nz]
Sent: Friday, 11 May 2018 11:27 a.m.
To: Submissions
Cc: Alan Mark; 'Dugald MacTavish'
Subject: FW: ORC Submssion on Biodiversity Strategy
Importance: High

Wise Response Society Inc. Submission on the Otago Regional Council's Biodiversity Strategy.

Background. The Wise Response Societ has provided background in its previous submissions to the Council so will not repeat this information here.

The Wise Response Society emphasises the importance of indigenous ecosystems and indigenous biological diversity, both for their intrinsic values and their role in providing invaluable ecosystem services.

The Society endorses the Council's intent to become more directly involved in sustaining the indigenous biodiversity of the Otago Region. Both plant and animal endemism is known to be releativelly high in this region and is being increasingly threatened by land development, particularly on areas of lower elevation, following completion of tenure review. The indigenous biota is significant in its own right and also in the provision of many ecosystem services, as has been described and emphasised in the recent publication by Mark, Barratt and Weeks, 2013: ["Ecosystem Services in New Zealand's Indigenous Tussock Grasslands: Conditions and trends." Ch. 1 in: Dymond, JR. ed. "Ecosystem Services in New Zealand - Conditions and Trends." Maanaki Whenua Press, Lincoln.pp. 1-33].

Much relevant detail is also available in the series of reports of Protected Natural Area surveys, conducted of many of the Ecological Districts in Otago since the mid 1980s: Old Man, Lindis, Pisa, Dunstan, Manorburn, Maniototo, Waipori, Dansey, Hawkdun, Umbrella, Nokomai, etc., copies of which should be available from the Dunedin office of the Department of Conservation, if not on file.

The Society also requests the Council supports the efforts of Predator-Free NZ2050 and affiliated organisations, and also to encourage central Government to undertake a comprehensive appraisal of the Gene Drive method of effective predator control for mustelids and rodents, and also possums in New Zealand.

As a general principle the Society also requests Council to play its appropriate role in the sustainable management of indigenous ecosystems and indigenous biological diversity in terrestrial, freshwater and marine environments to:

a) a) Maintain or enhance:

i. Ecosystem health and indigenous biological diversity including habitats of indigenous fauna;

ii. Biological diversity where the presence of exotic flora and fauna supports indigenous biological diversity;

b) Maintain or enhance as far as practicable:

i. Areas of predominantly indigenous vegetation;

ii. Habitats of trout and salmon unless detrimental to indigenous biological diversity;

iii. Areas buffering or linking ecosystems;

c) Recognise and provide for:

i. Hydrological services, including the services provided by tall tussock grassland;

ii. Natural resources and processes that support indigenous biological diversity;

d) Control the adverse effects of pest species, prevent their introduction and reduce their spread.

Policy 3.2.2 Managing significant indigenous vegetation and habitats

Protect and enhance areas of significant indigenous vegetation and significant habitats of indigenous fauna, by all of the following:

a) In the coastal environment, avoiding adverse effects on:

i. The values that contribute to the area or habitat being significant;

ii. Indigenous taxa that are listed as threatened or at risk in the New Zealand Threat Classification System lists;

iii. Taxa that are listed by the International Union for Conservation of Nature and Natural Resources as threatened;

iv. Indigenous ecosystems and vegetation types that are threatened in the coastal environment, or are naturally rare;

v. Habitats of indigenous species where the species are at the limit of their natural range, or are naturally rare;

vi. Areas containing nationally significant examples of indigenous community types; and

vii. Areas set aside for full or partial protection of indigenous biological diversity under other legislation;

b) Beyond the coastal environment, maintaining those values that contribute to the area or habitat being significant;

c) Avoiding significant adverse effects on other values of the area or habitat;

d) Remedying when other adverse effects cannot be avoided;

e) Mitigating when other adverse effects cannot be avoided or remedied;

f) Encouraging enhancement of those areas and values that contribute to the area or habitat being significant;

g) Controlling the adverse effects of pest species, preventing their introduction and reducing their spread.

If there is an opportunity, the Society would wish to speak to this submission.

Sincerely, Sir Alan Mark, FRSNZ, Chair, Wise response Society Inc.

Submission on: “Our Living Treasure – Nga Taoka : Otago Regional Council’s Biodiversity Strategy 2018”.

TO: Submission on “Our Living Treasure – Nga Taoka”
Otago Regional Council
Private Bag 1954,
Dunedin

SUBMITTER DETAILS

Yellow-eyed Penguin Trust

Contact Person: David McFarlane

Email: fieldmanager@yeptrust.org.nz

Postal Address: PO Box 5409
Dunedin 9058

Phone Number: 479 0011

Mobile Number: 021-479-116

TRADE SUBMISSION

We could not gain an advantage in trade competition through this submission.

HEARINGS

We would like to be heard in support of our submission.

If others make a similar submission, we will consider presenting a joint case with them at a hearing.

SUBMISSION DETAILS

Please see attached

_____ _____

Signature of submitter (*or* person authorised to sign on behalf of submitter) Date

BACKGROUND

The Trust

The Yellow-eyed Penguin Trust was formed in 1987. It is based in Dunedin, but its focus is the entire range of the yellow-eyed penguin / hoiho. The Trust owns and manages land for penguin breeding habitat at four key locations on the Otago Peninsula in Dunedin, one site in Clutha and one in Waitaki, and undertakes or supports conservation work at 40 other South Island sites, around Stewart Island, and on off-shore islands.

The Trust's work involves:

- **Habitat restoration**: Conservation of yellow-eyed penguin breeding habitats, including planting, predator control, fencing, stock exclusion, and associated maintenance.
- **Predator control**: Bait and trap control of introduced predators such as stoats, ferrets, cats and possums.
- **Research projects:** A variety of research projects have been undertaken and supported, in order to learn more about the penguins and help improve the effectiveness of our work. A conservation science advisor has recently been employed by the Trust with the support of the Otago Regional Council.
- **Nursery**: The Trust has its own plant nursery specialising in plants suitable for revegetating penguin habitats, producing 5,000 plants per annum.
- **Education:** The Trust provides information on penguin conservation to the public, and advocates for the yellow-eyed penguins' ongoing protection.
- **Collaboration**: Given the geographical range of the species and the types of habitats the penguins use, successful conservation is dependent on government agencies, NGOs, private landowners, tourism operators, fishing interests, and volunteers. The Trust works with all of these interests.

To support this work, the Trust employs a General Manager, and has six staff who undertake science advice, field work, run the plant nursery, and carry out the associated administration. Contractors are used as appropriate for specific tasks (e.g. specialised pest control, additional scientific research and monitoring), and the Trust is also hugely assisted by hundreds of volunteers and supporters.

Yellow-eyed penguins / hoiho

The threatened yellow-eyed penguin is the one of rarest penguins in the world, and the largest of temperate-climate penguins at up to 600mm tall. Its scientific name (*Megadyptes antipodes*) refers to a large diver from the southern lands, and its Maori name *hoiho* or 'noise shouter' refers to its shrill cry.

It colonised mainland New Zealand around 1500 AD, shortly after the extinction of the related Waitaha penguin. Following that extinction, the yellow-eyed penguin is now the only species in the *Megadyptes* genus. Unlike many penguins it does not live on ice, and it is the least social penguin, often preferring to nest well away from and always out of sight of other penguins.

The mainland population in recent decades has fluctuated between 400-600 breeding pairs. However, the last three breeding seasons have seen populations hit by a combination of an unexplained adult mortality event, disease, starvation and injuries, so that the number of chicks successfully raised has dropped to below half the normal rate. The total number of breeding pairs on the mainland has now fallen to around 200. This now raises serious concerns about the species' ability to survive on the mainland at most breeding sites, and appropriate habitat protection and conservation support are vital to their future.

As well as being an extraordinary bird in its own right, the yellow-eyed penguin is also economically valuable. Eminent Australian economist Professor Clem Tisdell (University of

Queensland) has calculated that nature-based tourism relying primarily on the yellow-eyed penguin returned $100 million annually to the Dunedin economy. The Trust has joined forces with local Otago Peninsula nature-based tourism operators, to argue the case for action on the issue of penguins and fisheries interactions. We have recognised that the conservation of this endangered New Zealand icon is a joint concern.

Further information on the Trust, the biology of the penguins, and the threats they face, is contained on the Trust's website www.yellow-eyedpenguin.org.nz.

SPECIFIC SUBMISSION DETAILS : Our Living Treasure – Nga Taoka

Overview & Context

The Yellow-eyed Penguin Trust (the "Trust") welcomes the ORC biodiversity strategy – it is not before time and is even more urgent with increasing understanding of the threat globally to biodiversity. A recent scientific paper (Ceballos G, et al. 2017) is a clear call for urgent action. It concludes: "…the sixth mass extinction is already here and the window for effective action is very short, probably two or three decades at most. All signs point to ever more powerful assaults on biodiversity in the next two decades, painting a dismal picture of the future of life, including human life".

(Biological annihilation via the ongoing sixth mass extinction signaled by vertebrate population losses and declines. Gerardo Ceballos, Paul R. Ehrlich, and Rodolfo Dirzo

PNAS July 25, 2017. 114 (30) E6089-E6096; published ahead of print July 10, 2017. https://doi.org/10.1073/pnas.1704949114)

Page 3:
We want Otago to be the proud home of thriving ecosystems and rich biodiversity
Submission: The estimate of "70 organisations working in biodiversity management in Otago" is in our view an underestimate, especially if all the small conservation focused community groups are included . Most importantly the Trust does not believe that it is sufficient for the ORC to simply "add value" – instead we submit that the ORC should assume leadership of biodiversity management in Otago. No other single organisation (*) has oversight over the territorial authorities that make up the Otago region and is in a position to drive a unified biodiversity strategy for the region. (*The Department of Conservation has split Otago into two with sections that are ultimately administered from Christchurch & Invercargill respectively. This has the further weakness of marginalising many of the conservation priorities of our region.) The diagram should have ORC at the centre to reflect this leadership role, and also include Kai Tahu as a separate grouping. We support the Guiding Principles and Desired Outcomes, these are well expressed and if met will transform biodiversity conservation in the region.

Decisions sought:

1. Replace “how ORC can add value” with “We’ve developed this strategy to identify how ORC can lead biodiversity conservation in Otago”.
2. Include Kai Tahu in the diagram as a distinct grouping alongside community groups, landowners, territorial authorities etc.

Page 5 : Otago’s Biodiversity

Submission: This is an excellent definition and description of Otago’s biodiversity and clearly identifies the diversity of this region and its contribution to our health, economy and social wellbeing. Biodiversity conservation in the future should and must be a “must have” and not “nice to have”.

The identification in the “Case Study: Pest Management” and its importance in protecting Otago’s biodiversity is highly important, without the control of pest plants and animals the battle to retain our native flora and fauna is lost.

The Trust greatly appreciates the inclusion of marine biodiversity in “Appendix: Biodiversity in Otago”. The responsibility of Otago regional government for the tens of thousands of hectares in the coastal zone out to 12 nautical miles from the Waitaki to Wallace Head has been more or less overlooked in the past, especially with regard to biodiversity as has the public interest in conserving this biodiversity.

Decisions sought:

1. The ORC should give priority to the protection of marine biodiversity (as identified in the Appendix) in the Otago Coastal Sea and explore options available to achieve this, including working alongside key stake holder groups such as the fishing industry, MPI and Ngai Tahu.

Page 6: About this strategy & Page 7 Guiding Principles

Submission: The strategy talks of “supporting & fostering collaboration” and “co-lead by communities”; as previously expressed the Trust believes this is not sufficient and the ORC should aspire to provide leadership in a fragmented regional conservation landscape.

We have some concern with the statement “It will be a living document and evolve…” The Trust believes that as a high level strategic document the Biodiversity Strategy” should not be changed or amended on an ad-hoc basis.

Decisions sought:

1. The ORC should refrain from ad hoc changes to the Biodiversity Strategy and instead review the whole document at appropriate intervals with public consultation.

Page 8: Key Issues:

Submission: Good identification of predators and pests, ongoing degradation of key habitats of flora and fauna, ecosystem services and climate change.

In particular the Trust supports the listing of limited funding as a key issue and the need to prioritise initiatives and ensure they are well funded. Dozens of conservation NGOS throughout Otago are struggling for some sort of financial sustainability in the face of increasing conservation challenges. These community organisations enjoy wide public support but face an uncertain future especially with regard to salary funding.

As previously mentioned, with respect to the marine responsibilities of the ORC the Trust submits that marine biodiversity conservation must be front and centre in the Biodiversity Strategy

Decision sought:

1. Substantially increase the ORC Environment Enhancement Fund to offer adequate contestable and prioritised funding for community conservation initiatives in Otago, including salaries.
2. The Biodiversity Strategy should also explicitly recognise ORC responsibility in the coastal marine area,(or what could be described as the "Otago Regional Sea") with the phrase "terrestrial and marine" added to Key Issue statements, such as :
   "Some unique habitats of terrestrial and marine flora and fauna have been lost, reduced in size, or degraded through human activities".

Page 10: Outcome 1 All indigenous species and ecosystems are maintained

Submission: There needs to be more discussion and precision around the meanings of "maintained" and "not at significant risk" and "enhanced" in relation to the conservation of indigenous species and ecosystems. Within the Biodiversity Strategy" this is encountered in several sections and should be defined in a way that it is able to be measured.
The Trust supports the intent of the four circled texts although we suggest that in order to carry this out the ORC must consider employing some in-house technical specialists.
Once again there needs to be explicit recognition of the marine responsibilities (out to 12 NM) of the ORC; as previously stated in relation to "Otago's Biodiversity" and "Key Issues" this is a very important responsibility. The circled texts are clearly very terrestrially focused and it is essential to broaden them to explicitly include the marine environment.

Decision sought:

1. Develop or adopt objective tools to measure the health and diversity of indigenous species and ecosystems.
2. Amend the 4 circled texts to recognise that they are referring to both the terrestrial and marine environment.

Page 11. Outcome 2 Threatened indigenous species and ecosystems are enhanced

Submission: As mentioned previously "enhanced" should be defined further, although it is noted that this is elaborated on in the title with reference to species listed as threatened.
As a further means of conserving threatened indigenous species and ecosystems the Trust recommends the purchase of key terrestrial habitats. Unlike some other regional councils the ORC has had a limited involvement in the purchase of reserves for biodiversity / wildlife conservation and public recreation.
Much of the most threatened indigenous flora and fauna is found on private land, and land purchase, as opportunities arise, is often a highly effective means of ensuring its conservation and in many cases also providing a range of other values, such as recreation for the public and ecosystem services.
Otago Peninsula is a case in point, with biologically valuable oceanic headlands and hills suitable for the restoration of seabirds and coastal forest/shrublands, much of which is currently farmed and whose steeper slopes are subject to regular and severe erosion events.
The Trust supports the suggested initiatives of co-ordination of stakeholders and communities and the promotion of community initiatives.

Decisions sought:

1. Investigate the establishment of regional conservation parks, focused on areas with high biodiversity and landscape values or the potential for restoration of these values.
2. Hold regional biodiversity forums based on territorial authority boundaries (Waitaki, DCC, Clutha, Central Otago, Queenstown Lakes) but include an annual Otago wide forum bringing them altogether to ensure Otago wide cohesiveness.

Page 12. Outcome 3 People are aware and proud of Otago's biodiversity

Submission: The Trust supports the proposed biodiversity and awareness programme and especially the assistance with Enviroschools, an organisation that we have been involved with supporting for several years and whose important work we have seen and experienced at first hand.

Decisions sought:

1. The Trust supports the intention of this outcome and especially the proposal to promote Enviroschools.

Page 13. Outcome 4 Kai Tahu's role as kaitiaki is acknowledged and supported

Submission: The recognition of the kaitiaki role of Kai Tahu and its Treaty partner role with ORC is strongly supported by the Trust, and in particular the incorporation of tikaka in biodiversity management

Decisions sought:

1. All parts of Outcome 4 are supported by the Trust as important and essential parts of the Biodiversity Strategy.

Page 14. Outcome 5 Otago's biodiversity role adds value to the regional economy

Submission: The role of our ecosystems and indigenous biodiversity in providing ecosystem services and locally in Dunedin (as well as elsewhere in Otago) the foundation of a flourishing nature-base tourism sector is well known and increasingly appreciated. What is often not appreciated however, is the need to invest in these ecosystems and biodiversity rather than simply make use of what fragments remain.

The previous suggestion of creating a network of regional conservation parks centred around existing or restored biodiversity and landscapes is also a sensible economic investment.

The Trust believes that simple marketing of Otago's biodiversity by tourism and marketing companies is a recipe for disaster, as shown by increasing negative visitor impacts on vulnerable coastal wildlife, including yellow-eyed penguins.

.

Decisions sought:

1. The Trust supports the identification of the economic value of indigenous biodiversity to the regional economy but the full potential returns cannot be realised until investment is made in its conservation and enhancement and provision made for management of visitor behaviour. .

Page15. What does ORC propose to do?

Submission: As previously expressed the Trust believes that as a high level plan this Biodiversity Strategy should not be added to / modified in an ad-hoc fashion and this is

best left to a public consultation process. Adaptation and modification is more appropriate for a lower level plan that derives its objectives from the Biodiversity Strategy.
Leadership & Collaboration: the Trust notes that a single biodiversity co-ordinator for such a large region will struggle to fulfil the role and needs support of at least a couple of technical experts.
Recognition of and support for the work of community groups is strongly endorsed. Increasingly in Otago many conservation initiatives are driven by these highly motivated and connected community groups. In this respect the ORC Environmental Enhancement Fund is crucial to ensure their performance and sustainability.
Education and Information Sharing: The Trust supports the importance of continuing to provide good quality biodiversity education to Otago's children and notes once again the key role and track record of Enviroschools.
Monitoring and Research: While there are many priorities for monitoring and research, those identified such as pest management and climate change are well justified and the Trust would note that current ORC support for the science role within our organisation is already producing valuable results. In particular the concentration of the Trust science role on marine issues and hoiho conservation is addressing many key marine issues that link back to key challenges such as climate change and fisheries management.
Regulatory: Development of appropriate and rigorous oversight and ensuring adoption of the biodiversity strategy by regional and district plans is crucial.

Decisions sought: Generally the ORC proposals (pp15-16) are endorsed, with some qualifying comments made above. Of all the ORC proposals one key decision sought by the Trust is for the adequate funding of the Environmental Enhancement Fund as this is key for the proper functioning of the regions community conservation organisations.

ORC Ref:
13

Respondent No: 1
Login: jrsullivan
Email: jilliansullivan25@gmail.com

Responded At: Apr 16, 2018 13:16:31 pm
Last Seen: May 11, 2018 04:41:04 am
IP Address: 127.0.0.1

Q1. **Is ORC doing enough to address biodiversity in Otago?**

No, we have the most threatened biodiversity in New Zealand. It should be mandatory for regional and district councils to have a biodiversity strategy, officer and fund, Otago, especially Central Otago, sells itself as a World of Difference hyet does little to protect that difference, putting commercial users/rights above those of the environment. The council does not know what biodiversity is there in private lands and so is unable to protect it.

Q2. **If not, what else would you like us to do?**

Work with Central Otago District Council to establish a paid position as biodiversity officer, carrying out aplanned biodiversity strategy, with a fund to help landowners protect indigenous flora and fauna.

Q3. **If you have any other feedback, we'd like to hear it:**

Have a strategy of working with landowners, with education and rewards, so that landowners are excited about protecting what's on their land.

Respondent No: 10
Login: RebeccaT
Email: rebecca.teele.nz@gmail.com

Responded At: May 10, 2018 21:15:08 pm
Last Seen: May 10, 2018 07:40:06 am
IP Address: 127.0.0.1

Q1. **Is ORC doing enough to address biodiversity in Otago?**

No.

Q2. **If not, what else would you like us to do?**

ORC needs to enhance all native biodiversity, not just maintain indigenous species and ecosystems (and not just enhance threatened indigenous species and ecosystems). Active expansion and protection of native vegetation/habitat by ORC is crucial.

Q3. **If you have any other feedback, we'd like to hear it:**

not answered

Respondent No: 11
Login: Shaun Collins
Email: caballero.collins@xtra.co.nz

Responded At: May 10, 2018 21:53:16 pm
Last Seen: May 10, 2018 08:27:05 am
IP Address: 127.0.0.1

Q1. **Is ORC doing enough to address biodiversity in Otago?**

No, the drylands are under protected. There needs to be a total ban on the clearance and cultivation of native woody vegetation as well as native grasslands , herb fields etc until a survey of all remaining drylands with possible rare, uncommon and declining species(both plants and animals) is under taken. This would include valuable ecosystems as well as degraded ecosystems that could be rehabilitated. An example is the hills around Bendigo, the Kanuka shrublands being cleared for vineyards and cherries are destroying valuable habitat for many spring annuals, many which are endangered species.

Q2. **If not, what else would you like us to do?**

Stop the fragmentation of natural habitats that in the long term results in the loss of biodiversity. This could be done by better planning on what land can be subdivided or cultivated. Any land being cleared of native vegetation, land owner should need to prove that the land has no value regarding biodiversity before gaining consent. Prosecute anyone clearing indigenous vegetation without the correct consent . The penalties need to harsh so as to deter this activity. At the moment the penalties are a joke.

Q3. **If you have any other feedback, we'd like to hear it:**

not answered

Respondent No: 12
Login: jamiemcaulay
Email: jamiemcaulay@gmail.com

Responded At: May 10, 2018 22:04:47 pm
Last Seen: May 10, 2018 08:51:36 am
IP Address: 127.0.0.1

Q1. **Is ORC doing enough to address biodiversity in Otago?**

The vision is bold and requires the vision to protect our biodiversity. At present the actions ("where we want to be") to not do contain enough to acheive the "vision". For example "the impact of predators on indigenous species is reduced" is not a action that will achieve the goal of "indigenous species and ecosystems are resilient and sustainable" - the "where we need to be" for that vision would be "that impact of predators is removed" otherwise there's no way of achieving that goal. If you are to achieve this bold vision you need bold and binding action to back this up.

Q2. **If not, what else would you like us to do?**

not answered

Q3. **If you have any other feedback, we'd like to hear it:**

Would like to see more meainingful language - less words like "reduced". if the aim is to achieve X goal, then the action must match that.

Respondent No: 13
Login: Ben Goddard
Email: bdg.goddard@gmail.com

Responded At: May 11, 2018 08:02:21 am
Last Seen: May 10, 2018 18:43:55 pm
IP Address: 127.0.0.1

Q1. **Is ORC doing enough to address biodiversity in Otago?**

Unsure on how to measure this, the question would be if the objectives set out by the council are being accomplished.

Q2. **If not, what else would you like us to do?**

A shift in the proposed management system, potentially based around a singular central body responsible for the direction of all institutions. This would provide clear leadership but would be balanced with allowing continued autonomy for each independent body in their area of specialisation and designated responsibilities. This central body could also provide a database of information - freely shared between all involved institutions supported by a team responsible for organising and aligning efforts of groups where their work overlaps.

Q3. **If you have any other feedback, we'd like to hear it:**

Implementation of regular environmental awareness classes (including biodiversity) into the educational curriculum from an early age.

Respondent No: 14
Login: S Ebisu
Email: csicse@yahoo.com

Responded At: May 11, 2018 09:25:07 am
Last Seen: May 10, 2018 19:47:36 pm
IP Address: 127.0.0.1

Q1. **Is ORC doing enough to address biodiversity in Otago?**

No

Q2. **If not, what else would you like us to do?**

Add the Central Otago district as a Dryland Area, as it has unique native biodiversity which MUST have special protection. Notify some invasive weeds, even if they have no economic importance to agriculture- i.e. Hawthorn, broom, gorse, briar, etc. Provide funds and/or manpower to Volunteer groups already operating in the district to help encourage native plantings (trees, shrubs etc) for birds, lizards and other fauna, and to help offset carbon emissions and protect watersheds.

Q3. **If you have any other feedback, we'd like to hear it:**

not answered

Respondent No: 15
Login: Amin Osama
Email: amin.osama@gallawaycookallan.co.nz

Responded At: May 11, 2018 11:10:44 am
Last Seen: May 10, 2018 22:07:46 pm
IP Address: 127.0.0.1

Q1. **Is ORC doing enough to address biodiversity in Otago?**

not answered

Q2. **If not, what else would you like us to do?**

Executive Summary The imminent National Policy Statement on Indigenous Biodiversity is likely to obligate the ORC to remedy the unavoidable adverse effects of human activities on Wildlife. Further to this, the ORC is obliged under the Resource Management Act 1991 to establish objectives, policies and methods for the maintenance of indigenous biodiversity. For the ORC's Biodiversity Strategy to fully satisfy the ORC's obligation to maintain indigenous biodiversity under the imminent NPS and the RMA, it needs to remedy the unavoidable adverse effects that human activities have on indigenous wildlife. [see Policy and Regulatory Framework] The Wildlife Hospital provides a platform in which the ORC can satisfy its obligations by providing an effectively managed recovery, treatment, rehabilitation and release network for sick and injured animals; in essence, a ready-made solution for a significant portion of what the ORC will need to do as part of its Biodiversity Strategy. [see Wildlife Hospital: Summary] The Wildlife Hospital's performance is far ahead of any alternative treatment approach. [see Key Facts] For some species, including iconic ones, without this capability, extinction is a clear and present risk. [cf. Parliamentary Commissioner for the Environment, May 2017] This capability is available to the ORC at a fraction of what it would cost the ORC were it to determine to build this capability from scratch; further it already has good, and growing, levels of support from around the community. We submit that the Strategy should be amended to include specific reference to the Wildlife Hospital and the crucial role it plays in maintaining indigenous biodiversity [see Current Status and Submission Recommendation] Policy and Regulatory Framework National Policy Statement (NPS) 1. Under section 55 of the Resource Management Act 1991(Act), the Otago Regional Council (ORC) is obliged "to give effect to" the objectives and policies within a NPS. 2. There is currently no NPS on Indigenous Biodiversity. However: a. In 2011 the Government released a proposed NPS on Indigenous Biodiversity. This never made it past public consultation. b. The current Labour led Government, with large support from the Green party, has committed to drafting a new NPS in the near future. A biodiversity collaborative group has been established and, with funding from the Ministry for the Environment (MFE), has been tasked with developing a new NPS. 3. We have been advised that the creation of a new NPS is a high priority for the current Government and it is anticipated that the collaborative group will report to the Government in September 2018 with a draft NPS. The Government has pencilled in 2020 as the year that the final NPS will be released. 4. Although no NPS is currently in existence, its implementation is imminent. To anticipate what the imminent NPS will oblige the ORC "to give effect to", we can examine: a. The 2011 NPS; and b. What the collaborative group has discussed in relation to the imminent NPS. The 2011 NPS 5. The 2011 NPS largely placed emphasis upon habitat protection. However, we note the following points: a. Policy 5 required local authorities to manage the effects of activities to ensure no net loss of biodiversity occurred and where such adverse effects could not be avoided, the local authorities were obliged to ensure remediation. b. Policy 6 required local authorities to support the resilience and viability of populations and species within identified areas and habitats by: i. Encouraging measures that mitigate and offset adverse effects on indigenous species; and ii. Considering both regulatory and non-regulatory incentives (such as technical advice and practical help). The Imminent NPS 6. There is good reason to believe that the imminent NPS will include similar policies. The collaborative group has had multiple meetings to discuss the drafting of the NPS. At their meeting on 26 October 2017 the group looked at: "the complex issue of the effects management including avoidance, remediation, mitigation, biodiversity offsetting, biodiversity compensation, adapted management and the precautionary approach". 7. The imminent NPS is likely to require methods to ensure remediation of inevitable adverse effects. The ORC's obligations 8. The ORC is not legally obliged to give effect to the derailed draft NPS or discussions of what will be contained in the imminent NPS. However, both can be used to gain insight into the national intention and what the ORC will likely have "to give effect to" in the near future. Considering that the NPS is imminent, we consider it prudent that the ORC consider the likely policies of the NPS when drafting the biodiversity strategy. The Biodiversity Strategy ('Strategy') 9. Wildlands

Consultants have prepared a report titled strategy analysis of options to improve management of ecosystems and biodiversity for the Otago Region (Report). The Report has a heavy focus on habitat protection by dividing the Otago Region into separate and manageable habitats. 10. By focusing on habitat protection the report largely gives effect to the likely policies in the imminent NPS through attempts to avoid and mitigate adverse effects. However, it fails to recognise any platform or mechanism that can assist with remedying the unavoidable adverse effects that a human community inevitably creates (i.e. it does not address the remediation of unavoidable adverse effects). 11. The ORC recently released the draft Strategy. The Strategy gives effect to the Report by giving specific attention to pest control and habitat protection initiatives. 12. It is clear that the underlying intent behind habitat protection and pest control is to protect the endangered indigenous animals that reside within these habitats. Although these initiatives are always going to be an important part of preserving indigenous biodiversity, another important part is to provide rehabilitation for animals when they inevitably encounter the adverse effects of human activities either directly (such as through a boat strike or being caught in a fishing net) or indirectly (such as falling prey to a mammalian predator that we have introduced). 13. For the Strategy to give effect to the imminent NPS, and for it to fully realise its purpose of preserving indigenous biodiversity, it cannot simply provide for ways to avoid and mitigate biodiversity loss – it needs to provide remedies for the adverse effects of human activities. 14. Habitat protection and providing rehabilitation for injured, malnourished and sick wildlife are two sides of the same coin when it comes to preserving indigenous biodiversity. 15. The Wildlife Hospital not only provides a platform by which the ORC can remedy the unavoidable adverse effects of human activities, it also fits seamlessly into the Outcomes of the draft Strategy: a. The Hospital achieves Outcome 1 by maintaining the biodiversity levels of Otago through the rehabilitation of many endangered animals; b. The Hospital achieves Outcome 2 by enhancing the survival chances of threatened species through rehabilitation, which in turn enhances Otago's ecosystems; c. The Hospital achieves Outcome 3 as its high public profile (which has received national and international attention) provides the Otago community with increased awareness of the importance of Indigenous Biodiversity and offers the opportunity for members of the community to assist with the operation of the Hospital. d. The Hospital achieves Outcome 5 as its high profile increases the reputation of Otago as an Indigenous Biodiversity haven and in turn assists in the ecotourism market that contributes to Otago's tourism appeal. 16. The Wildlife Hospital dove-tails well with the intent of the draft Strategy, but also provides a platform for remedying adverse effects that is absent from the draft Strategy. 17. The wildlife hospital fits perfectly within the regulatory framework and by provides a mechanism and platform for the ORC to remedy the unavoidable adverse effects of human activities. 18. Many of the animals within the Otago Region are at risk of extinction. Habitat protection, although a step in the right direction, is not enough to give them a fighting chance at survival. Hundreds of endangered animals each year face numerous dangers that are created by humans. Inevitably, hundreds of animals fall victim to such dangers. These can include severe malnourishment, injury and illness. The wildlife hospital provides a platform that serves to remedy all three. In doing so, the wildlife hospital provides a necessary platform that assists the ORC in achieving its goals. 19. The hospital also provides an entire rehabilitative network from the point of locating and collecting such animals until the animals are released back into the wild fully rehabilitated. Without such networks in place much of the habitat protection the ORC is currently undertaking would be made partially redundant. 20. The ORC and the wildlife hospital can work together to achieve their mutual goal of maintaining indigenous biodiversity. 21. We submit that the Wildlife Hospital should be given recognition within the Strategy. Wildlife Hospital: Summary ● The Wildlife Hospital - Dunedin is the South Island's only specialist wildlife hospital. It treats all native animal species, including kiwi, kea, penguins, takahē, albatross and NZ sea lions. It is a partnership between Otago Polytechnic (School of Veterinary Nursing) and The Wildlife Hospital Trust. ● On 24th April, 2018, at the end of its first 100 days, the hospital had received 191 admissions. ● The Hospital has a long-term development plan that will deliver a significant contribution to improving the region's biodiversity. This includes: o Full development of robust identification, uplift, transportation, triage and treatment, hospitalisation, rehabilitation and release infrastructure for all sick or injured native animals. o A co-ordinated research programme into the environmental, physiological and medical issues surrounding our native species, leading to proven results (e.g. malaria outbreaks in yellow-eyed penguins). o Construction, by Otago Polytechnic, of a bespoke Hospital on a new site, which will include oiled wildlife response, education and small eco-tourism capability. Also within this work, capacity planning is in hand for increased volumes arising from Predator Free initiatives. o An extended television documentary series (NHNZ) showcasing the work of the Hospital in the region. o Through its community stakeholders, the Hospital already has a volunteer base of more than 180 students and local residents involved with fundraising events, educational initiatives and the core Hospital operation – including a community partnership with Super Rugby team The Highlanders. ● Without cornerstone financial

support, the Wildlife Hospital will be unable to meet operating costs by second quarter 2019. ● By supporting the Wildlife Hospital, the Otago Regional Council will be delivering on its biodiversity goals, supporting the fight against species extinction within the South Island, helping build long-term resilience for the eco-tourism sector, and showing leadership within our rapidly growing network of community partnerships. Current Status The Wildlife Hospital service involves the admission, triage, diagnosis and treatment of sick and injured native animals. This treatment may include surgery, hospitalisation and (post-operative) recovery. The recovery process involves multiple partners to ensure successful rehabilitation and/or release back to the native environment. The Hospital is extremely effective at treating the animals admitted. Volumes to date have far exceeded pre-launch forecasts (>160%) and as a result we are recruiting an additional 1.0FTE vet nurse and 1.0FTE veterinary surgeon to meet the demand. Higher consumable costs also have to be met. Rehabilitation facilities are being expanded, although some key gaps still remain (raptors and seabirds). Field identification and recovery systems are in various stages of development, and risks have been identified that this proposal seeks to manage. Demand for research collaborations (primarily from University researchers) and community education remain only partly satisfied so far, due to resource constraints. Nonetheless, the Hospital expertise is already bearing fruit, through groundbreaking successes such as blood transfusion, leg tendon reattachment, extreme lead poisoning treatment, and research/development of malaria treatment protocols (shared with multiple veterinary groups including Wildbase and South Island Wildlife Hospital). While the Trust is making progress with growing funding support from businesses and the wider community, this will take time and considerable effort. Without early cornerstone support from key parties, including the Otago Regional Council, on current projections the Hospital will close its doors around Q1-2 2019. We are asking the Council for support for an initial period of five years, while the full infrastructure and other sustainable income streams are built. Key Facts: Table The Wildlife Hospital - Dunedin is already the busiest of the four specialist wildlife hospitals in New Zealand. By 24th April, after 100 days, the Hospital had seen 191 admissions across 25 species, with 151 of these uplifted in Otago; 65 (34%) carry Nationally Endangered or Nationally Critical classifications. These would previously have been flown to the N Island for treatment, with a significantly lower success rate (see below: Wildbase, 2015). The Hospital's treatment success rate for YEPs and other endangered species is currently 90%, with an overall treatment success rate of 74%. The generally accepted standard in countries with well-developed wildlife recovery and treatment networks is 45-55%. "Observing Wildlife" is the top activity for all main markets according to Tourism New Zealand Research (2016): German (95%), UK (93%), Chinese (84%), USA (83%), Japanese (74%), and Australian visitors (71%). 2007: The value of eco-tourism to the Dunedin economy alone was estimated at $100m p.a. with ~1,000 employed in the sector. No more recent studies are available, but up-to-date figures would be far higher, and for Otago overall higher still. Already two research collaborations underway with Massey and Otago universities. Research plans underway with Wildbase Hospital. Six more requests have already been received which cannot yet be managed. Otago Polytechnic veterinary nursing enrolments are up 20% for 2018. Forecast income for the Hospital for FYE June 2019 is $154k; forecast cost range is $330-434k. The Hospital Trust received $145k in grants for capital equipment, despite this being prior to launch. NHNZ documentary proposal: second-stage (final) proposal packages for broadcasters almost ready. "Of the [Yellow-eyed Penguin] cases seen at Wildbase, 6 of 18 were successfully treated and returned to the wild. The low number is reflective of the chronicity and severity of these wounds, and highlights the need for acute management of these cases [the need for immediate triage and veterinary care to improve the prognosis of these cases] to achieve a good outcome." Wound Management in Yellow-eyed Penguins seen at Massey University 2015 NZ Journal of Zoology Submission recommendation We submit that that the Wildlife Hospital should be given recognition within the Strategy.

Q3. **If you have any other feedback, we'd like to hear it:**

We would love to submit a word document. Please let us know if this is possible.

Respondent No: 16
Login: BevT
Email: beverleythomson123@gmail.com

Responded At: May 11, 2018 13:07:22 pm
Last Seen: May 11, 2018 00:02:11 am
IP Address: 127.0.0.1

Q1. **Is ORC doing enough to address biodiversity in Otago?**

No

Q2. **If not, what else would you like us to do?**

Implement the plan in Strategic analysis of options to improve management of ecosystems and biodiversity for Otago Tegion

Q3. **If you have any other feedback, we'd like to hear it:**

Saving our biodiversity is irgent

Respondent No: 17
Login: ZuniSteer
Email: zuni20@actrix.co.nz

Responded At: May 11, 2018 13:18:36 pm
Last Seen: May 11, 2018 00:10:51 am
IP Address: 127.0.0.1

Q1. **Is ORC doing enough to address biodiversity in Otago?**

Sometimes, but great improvements are needed.

Q2. **If not, what else would you like us to do?**

Be tougher on people who pollute the environment and who are responsible for habitat loss.

Q3. **If you have any other feedback, we'd like to hear it:**

Biodiversity Strategy Submission ORC Zuni Steer 16 Wellington Street Enfield RD2C Oamaru 9491 zuni20@actrix.co.nz 1. I support the need for restoring and enhancing indigenous biodiversity throughout Otago. I support the appointment of a biodiversity officer. We have lost too much in the last 150 years and we are well overdue for a rebalance. 2. Habitat loss is still an issue. On dairy farms in North Otago, wetlands have recently been drained and developed into exotic grass paddocks for dairy cattle. Nothing was done to stop them or prosecute them. Pukekos have been killed on dairy farms around the wetlands. Also, shelter belts have been removed en masse, some of which contained indigenous species. ORC needs to be tougher on these issues. 3. All pests and weeds need to be dealt with efficiently, effectively and promptly, not just wilding pines. 4. There needs to be a much larger budget put aside for indigenous biodiversity.

Respondent No: 2
Login: ismith
Email: iansallysmith@gmail.com

Responded At: Apr 29, 2018 09:17:50 am
Last Seen: May 10, 2018 02:44:27 am
IP Address: 127.0.0.1

Q1. **Is ORC doing enough to address biodiversity in Otago?**

Not at present but I like the new Strategy.

Q2. **If not, what else would you like us to do?**

not answered

Q3. **If you have any other feedback, we'd like to hear it:**

not answered

ORC Ref:
23

Respondent No: 18
Login: waitakifb
Email: waitaki.branch@forestandbird.org.nz

Responded At: May 11, 2018 15:24:14 pm
Last Seen: May 11, 2018 02:02:50 am
IP Address: 127.0.0.1

Q1. **Is ORC doing enough to address biodiversity in Otago?**

ORC should increase its work in the area of supporting and enhancing biodiversity in Otago. The plan is a good start but the implementation is the critical aspect.

Q2. **If not, what else would you like us to do?**

*address continued habitat loss. e.g. drainage of wetlands to develop pasture, removal of shelter belts. *increased budget for pest and weed control

Q3. **If you have any other feedback, we'd like to hear it:**

Nature is in crisis and the ORC must work to implement the biodiversity strategy and ensure we start see biodiversity gains rather than loss locally.

ORC Ref:
24

Respondent No:	19	**Responded At:**	May 11, 2018 16:50:01 pm
Login:	Don Robertson	**Last Seen:**	May 11, 2018 03:47:59 am
Email:	donandgaye@xtra.co.nz	**IP Address:**	127.0.0.1

Q1. **Is ORC doing enough to address biodiversity in Otago?**

NO

Q2. **If not, what else would you like us to do?**

ORC draft Biodiversity Strategy Submission from Don Robertson, Lake Hawea There are a number of good aspects to the ORC draft Biodiversity Strategy. I won't comment on these. My comments below mainly address aspects that I believe are weak or missing and need to be strengthened or included to improve the draft ORC Biodiversity Strategy and prevent it from appearing to be a token effort. Nowhere in the document is there any mention of ORC's measures to reduce its carbon footprint. Climate change is mentioned several times (as it should be) as a major item impacting biodiversity. ORC will have a large carbon footprint with scope for reductions. While it would be very difficult to demonstrate cause-effect in biodiversity changes with respect to ORC's actions and outcomes in reducing its carbon footprint, nevertheless ORC should be seen to be a community leader in taking such steps. Page 8: the document refers to "sustainability of indigenous species at risk from predators and pests", but does not mention the substantial risk to terrestrial and aquatic biodiversity from expansion and intensification of agriculture, viticulture, horticulture and the rapid growth of urban development in some parts of the ORC areas of responsibility. These are major omissions which are not acknowledged, and should be addressed specifically in the document. Page 9: The Vision is good but there is no information about what measures will be taken to determine progress towards the vision. Nowhere in the document is there any mention of the size range of organisms to be fostered while addressing biodiversity. Where organisms are mentioned there is a misleading and very short list with a very strong macro focus, but no micro focus. In all ecosystems biological functionality is greatest at the micro end of the size scale. Focussing on macro-organisms alone will not succeed. Whole habitats need to be protected. Metrics of both macro and micro biodiversity will need to be monitored and assessed to ensure that progress towards vision outcomes is achieved. Biodiversity metrics are not mentioned in the draft strategy. The focus on habitats in Vision Outcome 1 is good and important as is the mention of use of consents to achieve the outcomes for habitats. However ORC's track record of using consent conditions to protect or enhance biodiversity is not strong. Mention is made on page 15 of the intent to hold a biodiversity forum every two years. A regular forum is to be encouraged, but holding a forum every year would be much better to help raise public awareness and also better enable ORC to check and report on progress against intended outcomes and to respond biodiversity monitoring results. Holding resident surveys every 5 years would also not be frequent enough. I have the same concern for the very long interval (5 years) to assess and report on the effectiveness of ORC's actions on biodiversity under the "Regulatory" heading on page 16. This interval is far too long and leaves room for slow and delayed decision making, and long gaps in reporting progress. There is brief mention of rivers and lakes, and no mention of biodiversity impacts of nutrient, sediment or toxin run-off into Otago waterways.

Q3. **If you have any other feedback, we'd like to hear it:**

See box above

Respondent No: 20
Login: WaitakiIrrigators
Email: elizabeth@waitakiirrigators.co.nz

Responded At: May 11, 2018 17:31:22 pm
Last Seen: May 11, 2018 04:17:09 am
IP Address: 127.0.0.1

Q1. **Is ORC doing enough to address biodiversity in Otago?**

not answered

Q2. **If not, what else would you like us to do?**

not answered

Q3. **If you have any other feedback, we'd like to hear it:**

The Waitaki Irrigators Collective (WIC) supports the Council resuming the biodiversity Environmental Enhancement Fund. We would like the Council to ensure there is a streamlined application process, improved publicity around the programme, and dedicated staff to aid in its uptake and effective implementation. WIC supports the Council co-leading projects and programmes with communities, in a co-ordinated and collaborative manner. WIC supports cross-group initiatives and the bringing together of stakeholders to ensure that efforts put in result in the best possible outcomes. Individual biodiversity efforts are laudable, but are likely to bring about greater results and improved species abundance and resilience if done in a co-ordinated manner (e.g. corridors). WIC would like the Council to ensure that biodiversity is interwoven into other key outcome areas, so as not to be viewed as a discrete “programme” and so that co-benefits across outcome areas can be better realised. For instance, providing information to landowners on what they can do to help maintain or enhance biodiversity and mahika kai sites can be done simultaneously with outreach on water quality programme implementation – so that both outcome areas are improved at the same time. WIC supports the linking of biodiversity initiatives with pest management strategy and actions. WIC supports the introduction of biodiversity awards. WIC supports the sharing of information between Council and other stakeholders and organisations. WIC supports the employment of an ORC biodiversity co-ordinator. Many community groups want to do something but aren’t sure where to go for advice and support without engaging a consultant. The co-ordinator role could provide the initial expertise to point groups and projects in the right direction. WIC supports the Council playing a role in increasing the community’s knowledge of indigenous species and their threat status. Landowners are more likely to act in a protective manner if they are aware of specific species and their habitat requirements.

ORC Ref:
26

Respondent No: 21
Login: Herbert heritage
Email: bajudge@xtra.co.nz

Responded At: May 11, 2018 17:39:21 pm
Last Seen: May 11, 2018 03:24:00 am
IP Address: 127.0.0.1

Q1. **Is ORC doing enough to address biodiversity in Otago?**

No

Q2. **If not, what else would you like us to do?**

Would like more definite actions proposed that don't rely on community involvement as a major means of achieving a successful biodiversity strategy. Biodiversity is far too important to be left to volunteers. If you are thinking of having a biodiversity offcer employed surely now is the time not two years hence. This brings me to my major concern that within the strategy there is little recognition of the state of biodiversity at the present time in Otago and the urgency with which reparations need to be made to lost biodiversity. From the various negative indicators I have read about, notably in WDC biodiversity strategy (which is now somewhat out of date.) this information is not widely known about. In the recently revised ORC policy statement there is frequent mention of maintaining and enhancing biodiversity but first one needs to know what biodiversity exists within different areas of Otago and more importantly how each species contributes to the overall health and welfare of freshwater, terrestial and marine environments and ecosystems. Exotic flora and fauna must be studied to observe how they interact or impinge on indigenous flora and fauna. It can't be left to generalised assumptions. It is unfair to leave the increase of indigenous vegetation to goodwill of farmers or volunteer groups who after initial enthusiasm often find themselves understaffed for the job. The interaction of ecosystems needs to be scientifically studied by persons employed to that purpose. Pest management (unpleasant work) needs funding to implement and monitoring to guage effectiveness. In education programmes indigenous vegetation that is identified as significant requires reasons explaining its significance and understanding of its vulnerability to adverse effects. There needs to be resources put aside to identify species at risk of extinction or resources at risk of depletion or dgradation. If water quality and river flows had been considered before permits were issued for dairy conversions would we have rivers now in their pristine state?/ not polluted or degraded or diminished, so still perfect habitat for fish and invertebrates. Mitigation measures need to be identified and tested before implementation as to their effectiveness. There needs to be financial resources put aside for all this investigation and documentation to occur and ORC needs to confer with other regions to save duplication and unnecessary study. I would like to suggest that a regional land plan is undertaken that covers not just biodiversity but water quality and climate change since they are interdependent of one another

Q3. **If you have any other feedback, we'd like to hear it:**

I appreciate the general sentiments expressed in the biodiversity strategy but feel it needs "teeth" to actually be effective. With the CP/TPP I notice there is concern about corporations being able to sue governments whose protective laws impede their making of profit. It is timely I feel for government agencies (ie regional councils) to consider suing corporations for abuse of, pollution of or waste of community resources. Fees placed on business that infringe such rights are too often accomodated into their budgets.

Respondent No: 22
Login: BillDyck
Email: wjdyck@gmail.com

Responded At: May 11, 2018 17:40:10 pm
Last Seen: May 11, 2018 04:32:38 am
IP Address: 127.0.0.1

Q1. **Is ORC doing enough to address biodiversity in Otago?**

No, but you are at least making an effort

Q2. **If not, what else would you like us to do?**

You should partner with Otago University and Manaaki Whenua to identify what is really critical and then fund Graduate students to conduct research to help fill the gaps.

Q3. **If you have any other feedback, we'd like to hear it:**

Don’t ignore coastal and marine biodiversity. It is positive to see you will be recruiting acoastal science resource in a year or so

Respondent No: 23
Login: Kris Vollebregt
Email: kris@st-arnaud.net

Responded At: May 11, 2018 17:57:35 pm
Last Seen: May 11, 2018 03:28:15 am
IP Address: 127.0.0.1

Q1. **Is ORC doing enough to address biodiversity in Otago?**

Currently no. Native biodiversity habitats are increasingly threatened and/or disappearing, with pressure from tourism, agriculture and urban landuse. The dire statistics on our endangered flora and fauna continue to worsen and alarm, and ORC as a regulatory body have not made themselves aware nor responded adequately.

Q2. **If not, what else would you like us to do?**

- Educate and advocate through tourism, agriculture and urban communities - make it personal - Support predator free urban communities - this is a space to for community ownership and education - Tourists levied for funding DOC - ORC to support this - An Orokanui or Zealandia for Central Otago? - Limit/ reduce dairy cow numbers esp in Central Otago

Q3. **If you have any other feedback, we'd like to hear it:**

I heartily support the biodiversity strategy and am cautiously optimistic that progress on the ground will be achieved. I also note in the Appendix that braided rivers are not listed - these are very important breeding sites for shore and river rare and endangered birds - banded dotterel, wrybill, black stilt, pied stilt, pied and black fronted tern, pied oyster catchers. Thanks for the opportunity to give feedback.

ORC Ref:
29

Respondent No: 3
Login: Esabee
Email: sanettebecher@gmail.com
Responded At: May 03, 2018 13:05:17 pm
Last Seen: May 02, 2018 04:17:20 am
IP Address: 127.0.0.1

Q1. **Is ORC doing enough to address biodiversity in Otago?**

The ORC has opted to take the role of a co-ordinator. The idea is not terrible, but I feel this is not enough. Here are some issues I see: 1. Good intentions, but little control over what actually happens 2. Little accountability - after all only trying to co-ordinate 3. The monitoring section says close to nothing - it is implied that monitoring will underpin any research that might or might not be done. Without rigorous monitoring we won't really understand the "as is" and if we do not know that, we cannot measure progress towards a future state

Q2. **If not, what else would you like us to do?**

Go beyond co-ordinating and either mandate actions from the TAs (and then invest in monitoring how effective these are and follow through if they are not effective or not done properly), or become active in "doing biodiversity" in the Regional Council itself

Q3. **If you have any other feedback, we'd like to hear it:**

not answered

Respondent No: 4
Login: Johnston
Email: gb.johnston@xtra.co.nz

Responded At: May 05, 2018 18:31:21 pm
Last Seen: May 05, 2018 05:27:34 am
IP Address: 127.0.0.1

Q1. **Is ORC doing enough to address biodiversity in Otago?**

Obviously not as plant & animal pests are rampant.

Q2. **If not, what else would you like us to do?**

Seriously address the weed & animal pest problems & not rely so heavily on volunteer organisations.

Q3. **If you have any other feedback, we'd like to hear it:**

not answered

Respondent No: 5
Login: tgardner
Email: tgardner81@gmail.com

Responded At: May 05, 2018 18:34:39 pm
Last Seen: May 05, 2018 05:20:12 am
IP Address: 127.0.0.1

Q1. **Is ORC doing enough to address biodiversity in Otago?**

No

Q2. **If not, what else would you like us to do?**

- More support for pest control programmes and research programmes into control of invasive introduced species. - Tighter monitoring of waterways and more incentives for innovative and compliant farmers as well as more severe penalties for poor farming practices which degrade waterways.

Q3. **If you have any other feedback, we'd like to hear it:**

not answered

Respondent No: 6
Login: Evelyn Skinner
Email: evelynm.skinner1@gmail.com

Responded At: May 07, 2018 21:16:45 pm
Last Seen: May 07, 2018 06:50:59 am
IP Address: 127.0.0.1

Q1. **Is ORC doing enough to address biodiversity in Otago?**

According to the Wildland Consultants document (2017) much of the Key Biodiversity features eg Otago Peneplain, the Inland outwash plains, and the Inland Saline Ecosystems (page 36 of report) are mostly unprotected from the effects of intensification of land use, driven by irrigation etc. The latter are especially vulnerable as they are rare and scattered---and mostly lie on private land--at effect of weed invasion and cultivation. To read the Council's Biodiversity Strategy--after studying the Wildland 2017 Report in all its detail greatly concerned me. I fail to see why this excellent report, paid for by the Council, could not have been adopted in its entirety as the Strategy statement 2018

Q2. **If not, what else would you like us to do?**

I note you intend to employ a Biodiversity Coordinator within one year---given that so much of the indigenous flora and fauna are listed as "critically endangered", I suggest this action needs to be taken immediately. I note in the 2017 report that the Waitaki District Council is undertaking ecological significance assessments to better protect vegetation and habitats--ORC needs to be following suit---and also undertaking an inventory of the flora and fauna and LOCATION of the Key Biodiversity Features that Wildland lays out in Section 5. The Inland Basin Floors of Central Otago were singled out in Wildland's excellent report as needing to receive the highest priority to protect all remaining indigenous vegetation--and to increase indigenous vegetation through restoration and planting. Of the 253,415 hectares in this zone, only 5 percent indigenous cover remains. I fully support what Wildland has written in Section 8, where they report on "stakeholder views on potential Regional Council actions". Attention to River Management, and freshwater quality is of serious concern--a larger number of officers whose concern is to monitor the behavior of the agricultural sector around lakes and rivers, as well as that of holidaymakers.

Q3. **If you have any other feedback, we'd like to hear it:**

The appropriate weight is given by Wildlands to this vital subject of Biodiversity--I do not see this echoed in the DRAFT Strategy Plan--for example, on page 3 of the Wildlands report, ORC's role (and responsibility) in managing regional diversity is illustrated by a graphic showing the International Context, New Zealand being a signatory to the UN Convention on Biological Diversity; the National Context, including the NZ Biodiversity Action Plan 2016--2020 and the Resource Management Act 1991; and ORC's local partners and stakeholders. According to many, the World is on the edge of the 7th Mass Extinction---genetic uniformity in agriculture is cited as one of the main drivers in this evolving catastrophe. The daily struggle and eventual disappearance of the flora and fauna which make Central Otago truly a World of Difference, in the face of weeds, intensive agriculture, and IGNORANCE should be of huge concern to all of us who choose to call this place home.

ORC Ref:
33

Respondent No: 7
Login: Matthew Sole
Email: doublett59@xtra.co.nz

Responded At: May 09, 2018 20:27:40 pm
Last Seen: May 09, 2018 07:25:29 am
IP Address: 127.0.0.1

Q1. **Is ORC doing enough to address biodiversity in Otago?**

It is very appropriate to be consulting on this significant issue especially in relation to our more intensively used valley floors, plains, rivers, and wetlands. However in relation to current regional and district plan objectives, polices, rules and enforcement our loss of biodiversity especially in the last 30 years is nothing short of willful neglect; especially in relation to our wetlands, river margins and semi arid dryland biodiversity systems. Through deliberate neglect Central Otago has overseen some of the highest rates of biodiversity extinction recorded in NZ. Central Otago district has by far the worst record in New Zealand for protection of biodiversity. Tables 6, 7 and 8 from Walker, Price, Rutledge. 2008. New Zealand's remaining indigenous cover: recent changes and biodiversity protection needs. Science for conservation 284, DoC. Baseline inventories are near nonexistent and without those how do we know what biodiversity we have; where it is to protect, manage and restore ; and what to monitor to understand the state of biodiversity and then when to enforce land practice changes to maintain what are often now only remnant fragments of past more extensive systems. Continued externalization of our environments wellbeing is now coming to the sharp end of things. Willful blindness to the effects of continued extraction and mining of our environment in the name of (unsustainable) progress is pressing hard up against environmental limits. The health and survival of our biodiversity systems is a barometer of our wider environmental well-being. We need to be taking an urgent and active systems approach to managing our rich and complex environment which sustains where we live, work and recreate.

Q2. **If not, what else would you like us to do?**

We need to take immediate action on baseline inventorying and education of what remains with advocacy and support on how to preserve and protect what is left. Monitoring needs to be active with the power of enforcement and prosecution for identified threatened biodiversity degradation and destruction. Regional and district councils need to empower both collaborative community and private landowner conservation supported by advocacy, education and funding for legal protection, active conservation management – fencing; pest control; plantings; species introduction. For Central Otago the saline; spring annual and semi-arid shrubland systems with their aligned invertebrates have a number species that are endemic to Otago and exist nowhere else on earth. We are their stewards and their survival depends on our actions now. Ng mihi Matthew Sole

Q3. **If you have any other feedback, we'd like to hear it:**

not answered

ORC Ref:
34

Respondent No: 8
Login: Room 6 St Gerards
Email: ollieyeoman@stgerards.school.nz

Responded At: May 09, 2018 21:49:24 pm
Last Seen: May 08, 2018 02:07:47 am
IP Address: 127.0.0.1

Q1. **Is ORC doing enough to address biodiversity in Otago?**

I appreciate and approve of the increased role the ORC are indicating they would like to take in contributing to biodiversity, however I think there is scope for significant improvements.

Q2. **If not, what else would you like us to do?**

The stated desired outcomes are that "All indigenous species and ecosystems are maintained" and "Threatened indigenous species and ecosystems are enhanced." I would suggest that this needs to be more ambitious and that all indigenous species and ecosystems need to be enhanced, not just maintained. The current state of indigenous species and ecosystems is incredibly poor when compared with what was present historically within the region. To aim for just 'maintenance' is be maintaining an already heavily compromised level of biodiversity. If we are serious about resolving or combatting climate change and water quality issues, and protecting our indigenous species from these threats, then enhancing our biodiversity is a key goal to hold. At this stage it looks like ORC is planning to employ one person to the biodiversity position. If ORC are being truly aspirational with it's goals then the job is far larger than one person can possibly do justice to. I would like to see funding set aside for a larger team, and rather than ORC just taking a supporting role alongside other partners, I would like to see ORC taking a leadership role. I am very much in support of the initiatives outlined in all of the proposed outcomes. In outcomes 1-3 of the plan I note that the word 'promote' is used regularly. I am in support of active promotion but look forward to ORC making it clearer as to exactly what form that promotion will take. This will need to be a very creative venture as anecdotally I would think that the current public engagement, understanding or valuing of our biodiversity, or ecosystem services is relatively low. If we are to make meaningful inroads into the intended outcomes then public education will need to be significant and creative, and therefore require significant investment. Under Outcome 1 the proposed plan states that "ORC will provide information so people can make informed decisions about their activities. Plans, rules and consents will aim to avoid habitat loss or degradation, both from individual activities and cumulatively." I would suggest that stronger regulatory frameworks need to be developed, and more stringent enforcement needed. History shows that having good information is not enough to prevent some people from destroying habitat. I would argue that it is not strong enough to 'aim to avoid habitat loss', we must have measures to enforce positive behaviours and ensure that habitat is not lost. Too much has been lost already!

Q3. **If you have any other feedback, we'd like to hear it:**

not answered

Respondent No: 9
Login: TreestoneFar
Email: treestone_far@yahoo.com
Responded At: May 10, 2018 19:35:05 pm
Last Seen: May 10, 2018 05:11:14 am
IP Address: 127.0.0.1

Q1. **Is ORC doing enough to address biodiversity in Otago?**

1. This is a misleading and ambiguous question. It should read "Is ORC PLANNING TO DO enough to address NATIVE biodiversity in Otago? Because ORC is not doing nearly enough now to address the continuing loss of native biodiversity. 2. the planned future is very weak. How does a "regional biodiversity forum" enhance or maintain native biodiversity? Action is needed, not words.

Q2. **If not, what else would you like us to do?**

1. be very clear about the biodiversity you are targeting. Lawyers will drive a bus through the holes existing because of weak descriptions. The terminology and graphics in the 10-year plan and the biodiversity strategy are different. The 10-year plan has velvet-leaf and wallabies under biodiversity with no mention that they are are exotic at best and invaders at worst. 2. have a very clear ecosystems approach, including the drylands ecosystem of Central Otago. 3. use the Biodiversity Enhancement Fund to provide the education and the means for landowners, both urban and rural, to plant more native plants and encourage native wildlife. Just protecting the little that is left in Central Otago is totally inadequate. 4. use the Biodiversity Enhancement Fund to support groups who want to enhance native biodiversity. 5. combine the first and second desired outcomes to read "All indigenous species and ecosystems, ESPECIALLY THOSE THAT ARE THREATENED are ENHANCED AND maintained". 6. 'Pest' means an organism causing economic loss. There is no way of measuring the value of native ecosystems and their components (except for lizards which DoC puts $20,000 on) so an organism that is causing harm to natives should be termed what it is - an invasive species. 7. provide more information on the "over 70 organisations and community groups" enhancing our biodiversity. What does that mean? Does it include DoC, Landcare, MPI, ...? 8. I support the Guiding Principles on p7, but the document does not reflect those principles. 9. the words 'predator' and 'pest' have animal connotations. But invasive plants such as Clematis tangutica, pose a huge threat to our native ecosystems. 10. the "Vision" on p9 poses a real dilemma. It conflates commercial biodiversity (community wellbeing, i.e. business) and native biodiversity. Please be precise with the terminology. 11. Outcomes 1 and 2 must be combined. Central Otago has lost so much native biodiversity that it must be enhanced. The National Threatened Species programme is inadequate for Central. Every native species here is under threat. A regional threatened species list would be far more valuable. 12. Outcome 3 is good, but native biodiversity should be emphasisied. A community garden may have no native biodiversity at all. 14. Outcome 4 is good but my submission on Outcomes 1 and 2 relates to this. 15. Outcome 5 is good but needs precise descriptions. 16. the Proposals on pp15-16 are too weak. Where is the action? There is a huge gap between the Proposals and the Outcomes. 17. the biodiversity listed in the Appendix is missing the most threatened ecosystem in the province. There is no mention of the Central Otago drylands and the woodland that has been destroyed. ORC is often accused of being Dunedin-centric and this document shows it is a quite fair accusation.

Q3. **If you have any other feedback, we'd like to hear it:**

1. You should make the strategy document less of a deliberate PR exercise. It is too big (41Mb) for those with slow internet speeds to download comfortably. The glossy graphics do not help to understand the strategy. 2. The terminology across all documents should be precise. For example - the 10-year plan has velvet-leaf and wallabies under "Biodiversity" with no mention that they are are exotic at best and invaders at worst. Just what is the intention of that? 3. Differentiate between 'pests' (economic loss) and 'invasive species' (harmful to ecosystems). 4. Specify animal and plant threats to native ecosystems.

ORC Ref:
36
Private Bag 50072, Queenstown 9348, New Zealand
QUEENSTOWN, 10 Gorge Road, Phone +64 3 441 0499, Fax +64 3 450 2223
WANAKA, 47 Ardmore Street, Phone +64 3 443 0024, Fax +64 3 450 2223
QUEENSTOWN LAKES DISTRICT COUNCIL
www.qldc.govt.nz

11th May 2018

Otago Regional Council
Freepost 497
Private Bag 1954
Dunedin 9054

Via email: info@orc.govt.nz

Dear Sir / Madam,

RE: QLDC SUBMISSION – BIODIVERSITY STRATEGY

Thank you for the opportunity to present our submission in relation to the Otago Regional Council's Draft Biodiversity Strategy.

We are keen to be heard in relation to our submission, should the opportunity arise.

Yours sincerely,

Mike Theelen
Chief Executive
Queenstown Lakes District Council

Jim Boult
Mayor
Queenstown Lakes District Council

1.0 INTRODUCTION AND CONTEXT

1.1 QLDC would like to commend ORC for taking the lead on this strategy.

1.2 The proposed Queenstown Lakes District Plan contains a list of threatened plants, and an operative list of numerous recently-assessed significant natural areas that capture mostly woody indigenous vegetation, wetlands, and sites of specific wildlife interest. Both threatened plant species and significant natural areas are protected by indigenous vegetation clearance rules.

1.3 QLDC supports that the strategy will provide guidance and a common focus for policy and decision making, resource allocation, voluntary effort, and on-the-ground projects and initiatives relating to biodiversity management in the Region.

1.4 QLDC would like to make the following submission points so that the strategy will provide a framework for efficient and effective management of native ecosystems and the eradication of specified plants and animals in the Otago Region. This submission will comment on:

- Community Groups
- Pest Management
- Wilding Conifers

2.0 COMMUNITY GROUPS

2.1 QLDC supports partnerships with ORC and supports the formation of a regional biodiversity group jointly funded by TLAs and ORC.

2.2 QLDC recommends that ORC work closely with existing community groups and is involved and committed to these groups.

2.3 QLDC commends ORC on the increase to the contestable ORC Biodiversity Fund of $500k per year.

2.4 In addition to the ORC Biodiversity Fund, QLDC requests that ORC contributes committed remediation budgets and resources (in kind staff time) for established Biodiversity Community programs. QLDC and LINZ currently contribute to the following programmes:

- Lake Wakatipu Aquatic Weed Management Group (Lagarosiphon control in the Kawarau River and preventing establishment in Lake Wakatipu)
- Lagarosiphon control in Lake Wanaka
- Predator free programmes in Otago
- Wetland groups in the Queenstown Lakes District
- Other pests/plant programmes that develop

2.5 QLDC requests that ORC expands its support for predator free programmes to areas outside of Dunedin, working with community programmes across Otago, for example the Wakatipu Wildlife Trust (Queenstown) and the Wanaka Backyard Trapping Group (Wanaka)

3.0 PEST MANAGEMENT

3.1 QLDC recognises the importance of administering and reviewing the Regional Pest Management Plan. Furthermore, we request that ORC involves and works closely with QLDC on the development of the Pest Management Plan in future.

3.2 QLDC recommends that ORC looks to other Regional councils nationally such as Environment Canterbury to assess the rules that have been implemented in their plans.

3.3 QLDC requests that ORC increases its resourcing for environmental monitoring and pest management compliance across Otago.

3.4 QLDC requests that ORC remains focused on providing engaged responses to pest management and demonstrating clear commitment to pest management.

3.5 It is agreed that ORC should take the lead on education and advocacy, by providing information on biodiversity and developing an online portal for sharing information.

3.6 Additionally, QLDC supports ORC' suggestion of an established targeted rate for pest control and/or biodiversity projects.

4.0 WILDING CONIFERS

4.1 QLDC commends ORC on its recognition of the scale and threat posed by wilding conifers to the region's water and land resources in the Long Term Plan.

4.2 The ORC Long Term Plan provides funding for wilding tree control. QLDC requests that ORC considers a substantial increase to its financial commitment to eradicating wilding conifers, as QLDC contributes $500,000 annually in its Long Term Plan.

4.3 QLDC agree that protection of tussock grassland habitat is a key point in the Strategy. We do not agree that alpine tussock grassland in Otago Region is generally well-protected, Wilding conifers are a major threat to these tussock grassland.

5.0 RECOMMENDATIONS AND SUMMARY

5.1 QLDC supports the actions and desired outcomes of the ORC's Draft Biodiversity Strategy. As outlined above, it is recommended that further focus is given to working with community groups, widening the approach to pest management and increasing funding for the eradication of wilding conifers.

Appendix 3: Recommended changes to incorporate into the final Biodiversity Strategy

Recommended change (page number)	Rationale
Title page (p. 1)	
Change strategy name in te Reo: Our Living Treasure/ Tō tātou Koiora Taoka ~~Nga Taoka~~	Ngā Taoka means 'the treasures/precious things'. It does not include any reference to life or biodiversity. The suggested title means 'our rich biodiversity', which more accurately describes what the strategy is about
Strategy on a page (p. 3)	
Add title to the strategy on a page:	This page should be able to stand alone as a summary and communication tool. To effectively do this it requires the strategy title
Vision: ~~We want~~ Otago ~~to be~~is the proud home of thriving ecosystems and rich biodiversity	• More concise and active language • 'We want' is over used throughout the document
Purpose: This strategy identifies how ORC will add value and strategic leadership to the biodiversity initiatives of communities and other organisations in Otago ~~There are over 70 organisations working in biodiversity management in Otago. We've developed this strategy to identify how ORC can add value to the good work that communities are doing~~	• Purpose needs to be clear • Several submitters noted that ORC needed to aim higher, take a more active leadership role, and be more involved in working with other organisations to align strategic directions in relation to biodiversity • More definitive and active language makes for a stronger statement of what ORC *will* do
Desired outcomes 1. All indigenous species and ecosystems that support them are maintained 2. Threatened indigenous species and ecosystems that support them are actively protected and enhanced	Focus needs to be on ecosystems that support *indigenous* species. Not practical or desirable to maintain *all* ecosystems as some may be detrimental to indigenous species. Active protection of threatened species is required to enhance them and making this explicit adds weight and clarity to Outcome 2

Bottom box: *under* Collaborate: • Hold a biennial regional biodiversity forum • *Add:* Participate in national level initiatives and collaboration to improve biodiversity outcomes *under* Monitor and research, *add*: Identify and report on biodiversity indicators for Otago *under Regulate:* *3rd point:* …plans provide for good biodiversity outcomes	Clarification There are opportunities to for ORC to be more involved in collaboration and networking across councils This is critical to assessing the current state of biodiversity and progress over time Clarification
Change title in footer: Our Living Treasure / To Tatou Koiora Taoka ~~Nga Taoka~~ *Repeat on all pages.*	Title change explained above. Consistency throughout document
CONTENTS (p. 4)	
Consequential changes: Outcomes 1 and 2: *see suggested changes on p. 3*	
People are aware and proud of ~~otago's~~ Otago's biodiversity	Capital letter
OTAGO'S BIODIVERSITY (p. 5)	
Refine vision statement. See suggested change on p. 3	
Biodiversity (or ~~short for~~ biological diversity)	Conciseness
2nd paragraph: ….our social and cultural wellbeing. • Indigenous species are also ~~a~~ ngā taoka	Biodiversity contributes to cultural wellbeing also. Plural

ABOUT THIS STRATEGY (p. 6)	
Biodiversity ~~is all around us. permeates our surroundings.~~	Plain English
Case study, 2nd paragraph: This project is a good example of an initiative ~~one~~ that would ~~could~~ be supported through ~~the~~ implementing ~~ation of~~ this strategy.	Stronger language: *would* rather than could One is a non-descript term More active language
GUIDING PRINCIPLES (p. 7)	
Introductory statement: Several principles underpin ORC's biodiversity strategy. These will guide decisions ~~making~~ as we implement the strategy ~~is implemented,~~ and ~~will~~ help to ensure its ~~is~~ success~~ful~~	Concise and more active language
Subtext under Focus on ecosystems: An ~~holistic~~ ecosystems-based approach…	Holistic is redundant as ecosystems are inherently holistic
Subtext under Coordinated & collaborative: … and collaborative approach towards enhancing biodiversity outcomes	More specific language in terms of the *purpose* of coordination and collaboration
KEY ISSUES (p. 8)	
Where we are *3rd point:* …if not well coordinated and aligned with regional priorities *5th point:* ….protection and neglect~~ion~~ *6th point:* …it may have~~. It~~and can ~~also~~ limit ~~impact~~ the effectiveness….	Several stakeholders who made online submissions (e.g. DCC, WDC, DOC) expressed a view that ORC should be a regional leader in biodiversity management and be more involved in strategic alignment across organisations Concise language

Where we want to be *1st point:* The impact of pests on indigenous species is actively managed and reduced *2nd point:* The extent and life-supporting capacity of habitat for indigenous species is maintained or enhanced *3rd point:* ORC leads regional coordination and alignment of ~~Biodiversity~~ biodiversity ~~efforts~~ initiatives ~~of stakeholders are coordinated~~ across organisations and communities in Otago	More specific and *active management* is required to achieve a reduced impact Loss of habitat is a key barrier to maintaining and enhancing indigenous species Several stakeholders who made online submissions (e.g. DOC, DCC, WDC ___) expressed a view that ORC should be a regional leader in biodiversity management and be more involved in strategic alignment across organisations and initiatives Active language focused on what ORC will do
VISION ~~AND~~ & OUTCOMES FOR BIODIVERSITY (p. 9)	Minimise emphasis on conjunction
Vision, Outcomes 1 & 2 -*see suggested changes on p. 3*	
OUTCOME 1 (p. 10)	
All indigenous species and ecosystems that support them are maintained	
The extent and life-supporting capacity of habitat that supports indigenous species is maintained *1st point below heading:* … will aim to avoid ~~habitat~~ loss or degradation (including cumulative effects) of habitat that supports indigenous biodiversity ~~from both individual activities and cumulatively~~	Keeps the focus on indigenous biodiversity more concise and specific language, focus on indigenous biodiversity
~~Potential impacts from climate change are understood and prepared for~~ We understand and are prepared for the predicted effects of climate change on Otago's indigenous biodiversity *1st point below heading:* … to research the likely ~~local impacts~~effects of climate change on indigenous biodiversity in Otago	Active language Focused on indigenous biodiversity More focused

Habitat fragmentation is minimised and ecological corridors are maintained or enhanced *2nd point below heading:* … to achieve biodiversity outcomes~~,~~ (with recreation~~al,~~ and amenity co-benefits).	Clarifies intended meaning
OUTCOME 2 (p. 11)	
Threatened indigenous species and ecosystems that support them are actively protected and enhanced	
Subtext: ~~For species listed as threatened under DOC's New Zealand Threat classification system, we want to actively work to increase their abundance and overall wellbeing~~ ORC will actively work to increase the abundance of threatened* indigenous species **Add footnote:* As classified under DOC's Threat Classification System	Main point at start of sentence Concise language
Circle on right: ORC will promote ~~Opportunities~~ opportunities for communities to get involved in initiatives that support enhanced indigenous biodiversity by: ~~management exist and are known about~~ • supporting and promoting… • encouraging… • providing….	Submitters noted that many opportunities already exist but these need to be better promoted Active rather than passive language Focused on indigenous biodiversity Bullet points are more concise and mean that 'ORC will' does not needs to be repeated seven times on this page.
Circle on left: ORC will work with stakeholders and communities to help ensure that ~~Biodiversity~~ initiatives to enhance threatened species ~~efforts of stakeholders and communities~~ are coordinated and synergistic by: • bringing… • encouraging… • holding regional biodiversity forums at least every two years • raising…	Active rather than passive language Focused on threatened species Bullet points are more concise and mean that 'ORC will' does not needs to be repeated seven times on this page.

OUTCOME 3 (p. 12)	
Top box, subtext: ~~We want people to be~~ People and communities are aware of and enthusiastic about ~~the~~ biodiversity in their neighbourhoods and ~~regions~~districts, and ~~for it to~~this contribute~~s~~ to their sense of place and identity	'Districts' are closer to home so more relevant than "region~~s~~" Sense of "identity" is also relevant here.
Circle on right, add bullets: ORC will: • promote and assist…. • ~~ORC will~~ promote opportunities…	Bullets are more concise Consistency with text formatting in circles for Outcome 2.
OUTCOME 4 (p. 13)	
Top box, subtext: ~~We want everyone to~~All people in Otago understand the ~~value~~ cultural significance of indigenous species to Kāi Tahu and support their role as Kaitiaki	Specific to Otago 'Cultural significance' shows that more than economic 'value' is encompassed by this outcome
Circle on top right, subtext: … importance of ~~these~~ taoka species, …	More specific
Circle on bottom right, subtext: ORC will: • include a focus on enhancing mahika kai and taoka species into biodiversity management ~~ORC will~~ incorporate mahika kai and taoka species into regulatory processes, ~~as well as~~ monitoring, and research	
OUTCOME 5 (p. 14)	
Top box, subtext: Investments in ~~B~~biodiversity ~~can help~~contribute to Otago's economy by attracting tourists and residents, ~~making~~ providing a point of difference for our products, ~~stand out and be seen as unique,~~ and enhancing ecosystem services	Submitters noted that investments in biodiversity are required to achieve this outcome Clarity

WHAT DOES ORC PROPOSE TO DO? (pp. 15 & 16)	
Subtext under main heading: This is a high-level plan that ORC will add to and refine ~~and will be expanded on and added to~~ as the strategy is implemented.	Active, concise language 'Add' and 'expand' are close in meaning
Leadership and collaboration *1st point:* Hold a regional biodiversity forum to discuss regional priorities, activities, and opportunities, and to celebrate success *2nd point:* Partner with….DOC, Fish and Game, and other *3rd point:* Establish a regional biodiversity liaison group *Add a point:* Participate in national level initiatives and collaboration to improve biodiversity outcomes	Submitters noted that the council needs to seek strategic alignment with other organisations and take a more active role in regional leadership Fish and Game indicated that they want to partner with ORC and be specifically named in the strategy There are opportunities to for ORC to be more involved in collaboration and networking across councils
Education and Information Sharing 1st point: Provide information on biodiversity management to individuals, other organisations, and communities, including on good management…	Specifies who ORC will provide information to Several submitters noted the need to target *land managers* in relation to biodiversity management
Monitoring and Research *Add a point:* Identify and report on biodiversity indicators for Otago	Fits better here than under Regulatory heading
Regulatory *Delete 4th point:* ~~Develop indicators to assess the effectiveness od ORC's actions relating to biodiversity and report on these on a regular basis~~	

APPENDIX: BIODIVERSITY IN OTAGO (pp. 17 & 18)	
Rivers & lakes (p. 18): **Key species**: *add* waterfowl **Threats**: *add* habitat loss due to abstraction, nutrient and sediment run-off, wastewater discharges and urban contaminants (heavy metals, petroleum)	
River mouths and receiving coastal waters (p. 18) **Key species**: *add* fish, waterfowl	
Add: **Ecosystem:** Braided Rivers **Key species:** wrybill, black-fronted tern, black-billed gull, banded dotterel, black stilt **Threats:** introduced mammals, native avian predators (Southern black-backed gull) invasive weeds (lupins).	
Add: **Ecosystem:** Drylands **Key species:** native grasses, lizards, birds, invertebrates **Threats:** intensification of agriculture and horticulture, predators	
Add: **Ecosystem:** Alpine **Key species:** kea, rock wren, alpine flora **Threats:** climate change, weeds, predators	

Attachment 1: Policy: May 2018 update

Policy Plan Development Programme: 2017-18 year															KEY	Work completed Work in progress
Project	**0. Project Planning**	**1. S35 Audit**	**2. Background information**	**2A. Consult: values & issues**	**3. Develop options**	**3A. Consult: options**	**4. Develop preferred option**	**4A. Consult: Preferred option**	**4B. Consult: Pre-notify iwi**	**5. Notify, submissions**	**5A. Further submissions**	**6. Hearings**	**6A. Deliberation& decision release**	**7. Appeals: mediation & court**	**8. Make operative**	
Review of RPS																
RPS													Decision released 1 Oct 2016	Env Court hearing 19-23 Feb 2018	Mid 2018 NB right of appeal to High Court	
RPS Indicators *Implementation*		X		X	Work has commenced Mid-late 2018	X	X	X	X	X	X	X	X	X	X	
Plan Review inputs																
Water: Stormwater				Risk M'ment Method: Forum with stakeholders 8 Jun 2018		Community consultation Mid 2019		Community consultation Mid 2020		Notify Review of Water Plan Mid 2021						
Water: Waste water																
Plan Changes																
Coast: Discharges				Risk M'ment Method: Forum 8 Jun 2018		Community consultation Mid 2019		Community consultation Mid 2020		Notify Plan change Coast Plan Mid 2021						
Water: NPSFM Alignment				Online swimming survey Jan-Feb 2018	S32 Option Assessment Report (draft)		X	X		Notify Review of Water Plan Mid 2021						
Water: Amendment NES Plantation Forestry				X	X	X	X	X	X	X	X	X	X	X	Amend Water Plan June 2018	
Water: Lower Waitaki Aquifer Quality			Science Aquifer quality study 2016-2018	LWIC meeting Jun 2017	LWIC meeting Mar 2018	Not proceeding. To Review of Water Plan	X	X								
Water: Kakanui Alluvial	On hold: To Review of Water Plan		Science Study in progress				X	X								
Other																
Pest Management Plan: Amendment 2				X	X	X	X	X	X	X	X	X	X	X	Commencement Date 1 March 2018	
Air Strategy						X	X	Draft comments close 11 May	X	X	X	X	Report to Policy Committee June 2018	X	June 2018	
Biodiversity Strategy						X	X	Draft comments close 11 May	X	X	X	X	Report to Policy Committee June 2018	X	June 2018	

Attachment 2: ORC actions to reflect amendments to the NPS-FM

Table 1 Steps identified to reflect NPS-FM 2014 and 2017 amendments in the Otago Water Plan

NPSFM Matter	Action	Time	Current situation
Proposed Plan Change (NPSFM Alignment)			
Policy CA1 Freshwater management units (FMUs)	Plan change to align terminology used in managing water [Annual Plan W1: Regional Plan Water project].	~~2017-18 year~~ On hold	Defer to review of Water Plan
Policy CA2 Freshwater objectives for all FMUs	Re-present current Water Plan to more transparently show how the national values and uses for fresh water apply in Otago [as part of above Policy CA1 plan change].		Defer to review of Water Plan
	Assess national values transparently, as part of each new relevant plan change. Alter operative plan provisions as necessary using the plan change and review process [Annual Plan W1 and W6: Minimum Flows and Allocation Limits projects].	Ongoing	
Policy CA3 Bottom lines for FMUs	Re-present operative Water Plan to more transparently show how the national value bottom lines for fresh water apply in Otago [as part of above Policy CA1 plan change].	~~2017-18 year~~ On hold	Defer to review of Water Plan
Objective A3 Primary contact **Policy A5** Primary contact sites	~~Plan change to~~ Identify specified rivers, lakes and primary contact sites; any programme for improvements to those sites; and how those sites will be maintained once regional targets are achieved. [Extension of Annual Plan W1: Regional Plan Water project].	2017-18 year	Defer change to Water Plan to review
Policy A6 Regional targets	Develop regional targets to improve the quality of freshwater to meet the national target for water quality improvement as part of the above plan change process.	2017-18 year	Draft swimming targets prepared April 2018. Final targets due 31 Dec 2018.
Any change proposed to Water Plan			
Policy CA2 Freshwater objectives for all FMUs	Assess national values transparently, as part of each new relevant change.	Ongoing	
Objectives A4, B5 Economic wellbeing **Policies A7, A8** Economic wellbeing	Ensure that economic wellbeing is transparently considered when giving effect to the NPS-FM through plan change consultation and Section 32 evaluation processes.	Ongoing	
Monitoring freshwater & accounting			
Objective CB1 Monitoring **Policies CB1, CB2, CB3, CB4** Monitoring values	Complete review of SOE network and associated data collection systems to give effect to the monitoring requirements prescribed. Monitoring and reporting that information, as prescribed. [Annual Plan Z4 Information Systems project]	2018-19 [proposed] then ongoing	Report to Technical Committee January and March 2018
Policy CC1 Freshwater accounting systems for quality and quantity management	Review monitoring and reporting systems to ensure that national reporting requirements are met and best use can be made of data collected to inform decision making regionally. [Annual Plan Z4 Information Systems project].	2016-2018 years	Completed in part with NIWA review of SOE network above.
Appendix 2 Attribute table	Modify monitoring regime in accordance with attribute monitoring specifications of Appendix 2.	2019-20 [proposed] then ongoing	To commence in 2019-20
Policy E1g) Progressive implementation programme	Report at least every 5 years on primary contact site improvements made to the rivers specified in Policy A5	2023-24 [proposed] then 5-yearly	To commence in 2023-24