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MARLBOROUGH DISTRICT COUNCIL

14 July 2017

Record No: 17128493
File Ref: D050-001-E01
Ask For: Nicole Chauval

Notice of Committee Meeting – Thursday 20 July 2017

A meeting of the Environment Committee will be held in the Council Chambers, District Council Administration Building, 15 Seymour Street, Blenheim on Thursday, **20 July 2017 commencing at 9.00 am.**

BUSINESS

As per Agenda attached.

MARK WHEELER
CHIEF EXECUTIVE

MARLBOROUGH DISTRICT COUNCIL

Meeting of the ENVIRONMENT COMMITTEE
to be held in the Council Chambers, District Administration Building, Seymour Street, on THURSDAY, 20 JULY 2017 commencing at 9.00 am

Committee	Clr D D Oddie (Chairperson) Clr G A Hope (Deputy) Clr J A Arbuckle Clr T E Hook Clr C J Brooks Clr L M Shenfield Clr N P Taylor Mayor J C Leggett Mr E R Beech (Rural representative) Mr R Smith (Iwi representative)
Departmental Head	Mr H Versteegh (Manager, Regulatory Department)
Staff	Nicole Chauval (Committee Secretary)

In Public

Page

1. Apologies 1
2. Declaration of Interests 1
3. Resource Hearing Sub-Committee and Commissioner Decisions 2
4. State of the Mahakipawa and Kaiuma Bay Estuaries 4
5. Underwater Soundscape in Tōtaranui/Queen Charlotte Sound 9
6. Coastal Water Quality Scorecard 12
7. Recreational Water Quality - Summer 2016/2017 16
8. Our Fresh Water – 2017 19
9. Soil Quality Monitoring - Technical Report 26
10. Top of the South Conservation Alliance 28
11. Delegations Under the Building Act 2004 35
12. Amendments to Marlborough District Council Charging Policy - Resource Management Act 1991 36
13. Environmental Health Activity Summary for 2016/17 and Review of Survey Results 37
14. Dairy shed Effluent and Stream Crossing Survey 2016/2017 41
15. Aids to Navigation 43
16. Marine Farm Light Audits 44
17. Information Package 45

1. Apologies

An apology from Clrs D D Oddie, J A Arbuckle, T E Hook has been received.

2. Declaration of Interests

Members are reminded of the need to be vigilant to stand aside from decision making when a conflict arises between their role as a member and any private or other external interest they might have.

3. Resource Hearing Sub-Committee and Commissioner Decisions

(also refer to separate attachment)

1. Resource Hearing Committee Hearings held on 15 March 2017 (U161227), 21 March 2017 (U150178) and 4 May 2017 (U150896)

Full copies of the Decisions are **separately attached** to the Agenda.

A summary of these Decisions follows:

Schedule of Resource Hearing Sub-Committee Decisions

Pages	Date	Subject	Decision
1 - 21	15 March 2017	Daniel John Reed - Application for Resource Consent – Coastal Permit - Tennyson Inlet, Pelorus Sound (U161227)	**REFUSED** Coastal Permit to construct a new 37 metre long fixed and floating jetty off the promontory between Penzance Bay and Tuna Bay, immediately to the south of Betty Archer Recreation Reserve.
22 - 44	21 March 2017	Marlborough Aquaculture Limited - Application for Resource Consent - Coastal Permit - Four Fathom Bay, Inner Pelorus (U150178)	**GRANTED** Coastal Permit to establish and operate a 2.22 hectare extension to existing marine farm site 8376 at Four Fathom Bay using standard surface longline techniques, and to alter the longline layout on the parent farm approved through consent U100667.
45 - 49	4 May 2017	Ling Hai Group Ltd - Application for Section 357 Objection to a Resource Consent Conditions – Land Use (Activity), Discharge Permit (to Land) and Land Use (Land Disturbance) - Castles Road, Awatere Valley (U150896)	**GRANTED in part** Section 357A Objection to review conditions 5, 7, 9, 10, 16 and 19 of resource consent application U150896.

2. Resource Hearing Commissioner Hearings held on 13 April 2017 (U161275), 2 May 2017 (U161275), 8 May 2017 (U160501), and 22 May 2017 (U161348)

Full copies of the Decisions are **separately attached** to the Agenda.

A summary of these Decisions follows:

Schedule of Resource Hearing Commissioner Decisions

Pages	Date	Subject	Decision
50 - 64	13 April 2017	Riverlands Viticulture Limited - Application for Resource Consent - Water Permit (Take Water) x 2 and Water Permit (Use Water) x 2 - 340 & 342 Alabama Road, Blenheim (U161275)	**GRANTED** Water Permit (Take Water) x2 and Water Permit (Use Water) x2 to take Ōpaoa River FMU water from a proposed intake (Grid Ref 1682304E 5402759N) up to a maximum rate of 1441 cubic metres per day; to use water for the irrigation of up to 65.5 hectares of vineyard on Lots 1 & 2 DP 11610 and Lot 2 DP 10857; to take Ōpaoa River FMU water from a proposed intake (Grid Ref 1682304E 5402759N) up to a maximum rate of 1441 cubic metres per day outside the irrigation season; and to use water for miscellaneous uses on a vineyard on Lots 1 & 2 DP 11610 and Lot 2 DP 10857.

Pages	Date	Subject	Decision
65 - 128	2 May 2017	Hamish Paul Doig - Application for Resource Consent – Coastal Permit x2 - Milton Bay, Bay of Many Coves, Queen Charlotte Sound/Tōtaranui (U161275)	**DECLINED** Coastal Permit x2 (replacing U001249) to validate existing foreshore structures fronting Lot 1 DP 433122 in Milton Bay comprising: a floating jetty and linkspan; a two-storey boatshed including a single storey side extension, first floor balcony and associated double doors; a boat launching ramp; a seawall and steps; and decking; and to use the two-storey boatshed and side extension for leisure activities, vehicle storage and living space (excluding sleeping accommodation) including associated pool table, kitchen, dining and bathroom facilities.
129 - 156	8 May 2017	Gill Construction Company Limited - Application for Resource Consent - Land Use (Land Disturbance), Water Permit (Divert Water) and Land Use (River Surface or Bed Activity) - State Highway 63, Wairau Valley (U160501)	**GRANTED** Land Use (Land Disturbance), Water Permit (Divert Water) and Land Use (River Surface or Bed Activity) for earthworks associated with creating a training bank adjacent to the Wairau River and to use the site for clean fill; to realign one major and one minor stream; and within a wetland, excavate a channel and an open water area, remove willow trees and blackberry bushes, divide and replant flax plants, remove and stockpile organic soils and fill in the northern parts on Lot 3 DP 8816 and Lot 2 DP 8816.
157 - 178	22 May 2017	D J and C A Devine - Application for Resource Consent - Land Use (Activity) and Coastal Permit - 69 Waikawa Road, Picton (U161348)	**GRANTED** Land Use (Activity) to demolish and remove existing house and ancillary structures; to excavate 970 cubic metres of soil to lower the building platform and to build up to 1.6 metres outside the recession plane on Lot 1 DP 2343; to dredge up to 50 cubic metres of seabed material and place a 7 metre by 3 metre floating jetty and linkspan in Picton Marina; and a new coastal permit (replacing U030839) for an existing 7.5 metre long x 5.3 metre wide boatshed and 11 metre long slipway.

4. State of the Mahakipawa and Kaiuma Bay Estuaries
(also refer to separate attachment)

(Clr Hope) (Report prepared by Dr Steve Urlich) **E325-006-003-03, E325-006-004-03**

Purpose

1. To provide the Committee with two estuary reports which establish contemporary ecological baselines.

2. **Separately attached** are the Wriggle Limited report "Kaiuma Estuary: broad-scale habitat mapping 2017" and the SLR Consulting Limited report "Mahakipawa Estuary: Fine-scale monitoring and broad-scale habitat mapping 2017".

3.	**Leigh Stevens, Marine Ecologist at Wriggle, will present the Kaiuma report (10 minutes).**
4.	**Reid Forrest, Marine Ecologist at SLR, will present the Mahakipawa report (10 minutes).**

Background

5. Healthy estuaries are productive ecosystems that provide an array of habitats for large, diverse populations of birds, fish and aquatic invertebrates. Healthy estuaries also provide social, cultural and recreational benefits, such as shellfish gathering, fishing, swimming and nature studies.

6. Estuaries are also sensitive receiving environments. The condition of estuaries reflects the effects of land use and other stressors. Results from monitoring can be used to explore and manage catchment influences, where these have been shown to cause negative effects to estuarine health.

7. Council uses the monitoring methods set out in the National Estuary Monitoring Protocol. These comprise broad-scale habitat and vegetation mapping, and fine-scale sediment survey of sediment biology and characteristics, including nutrients and contaminants.

8. Mapping habitats and comparing patterns over time enables an understanding of sedimentation dynamics on estuary ecology, as well as the influence of invasive species and the growth of nuisance macro-algae from high nutrient inputs. The effectiveness of regulatory and non-regulatory catchment initiatives will be evident over time in improved habitat condition and extent.

9. Council's 2012 coastal monitoring strategy identifies the need to monitor estuaries in Marlborough. A number of estuaries have had contemporary baselines established over the last three years (Table 1). The Kaiuma and Mahikapawa estuaries were monitored in 2017 (Figure 1).

5 yearly monitoring	Year	Return	Return	10 yearly monitoring	Year	Return
Havelock	2014	*2019*	*2024*	Okiwa & Ngakuta Bays	2012	*2022*
Wairau Lagoon	2015	*2020*	*2025*	Kaiuma Bay	2017	*2027*
Shakespeare Bay	2016	*2021*	*2026*	Tuna, Harvey and Duncan Bays	*2018*	*2028*
Waikawa Bay	2016	*2021*	*2026*	Kenepuru Estuary	*2018*	*2028*
Whangarae Bay	2016	*2021*	*2026*	Whatamango Bay	*2018*	*2028*
Mahakipawa	2017	*2022*	*2027*	South Arm Port Hardy	*2023*	*2033*
				Greville Harbour	*2023*	*2033*

Table 1: List of estuaries in Marlborough scheduled for monitoring. The estuaries on five yearly cycles have broad-scale habitat mapping and fine-scale sediment characteristics monitored, and those on a 10 year cycle have habitat mapping only. Other estuaries not considered priorities may be habitat mapped as resources allow.

Kaiuma Bay

10. Kaiuma Bay is a relatively unmodified estuary located in Te Hoiere/Pelorus Sound close to Havelock. It is approximately 90 hectares in size and is a shallow, well-flushed tidal lagoon type estuary. The catchment is dominated by native scrub and forest (Figure 2).

Figure 1: Location of Kaiuma Bay and Mahakipawa estuaries.

11. The estuary comprised intertidal flats (46%), saltmarsh (13%) and subtidal waters (41%). The intertidal flats were dominated by soft mud reflecting an ecosystem under stress. On the positive side, there were relatively extensive saltmarsh areas, which comprised rushland and herbfields.

12. Seagrass beds were virtually absent, covering an area of only 0.03%. The seagrass was under stress from fine mud deposition (Figure 3). Seagrass beds are an important biogenic (living) habitat. They provide stable physical habitat and a localised food source for birds and fish, and support a diverse community of invertebrates. These beds were once more extensive.

13. Wriggle attributes the condition of the estuary to excessive muddiness as a consequence of sedimentation. They recommend the source of the excessive sediment be identified, although they do not view the immediate surrounding catchment as the predominant source.

Figure 2: Kaiuma Bay estuary and surrounds.

Figure 3: Remaining seagrass bed in Kaiuma Bay estuary under stress from mud.

14. In 2005, Kaiuma was described as a pebble and cobble dominated estuary by marine biologist Rob Davidson. Davidson returned in 2015 and reported a very large influx of fine sediment which infilled the spaces between cobbles and changed the ecology of the estuary. Kaiuma is now one of the muddiest estuaries in the country (Figure 4). Healthy estuaries have relatively little soft mud, and greater amounts of sand and fine sand/silt reflecting low background sedimentation levels.

15. An increase in sedimentation and muddiness can result in the following effects:

a) Loss of seagrass, which is an important habitat for fish and birds at low tide;

b) Loss of shellfish, such as pipis and cockles, which are sensitive to fine sediment;

c) Reduction in invertebrate biodiversity and abundance (impacting on birds and fish);

d) Facilitation of invasive species, such as Pacific oyster beds, which have expanded;

e) Increased nutrient delivery contributing to nuisance sea lettuce blooms; and

f) Negative effects on human values

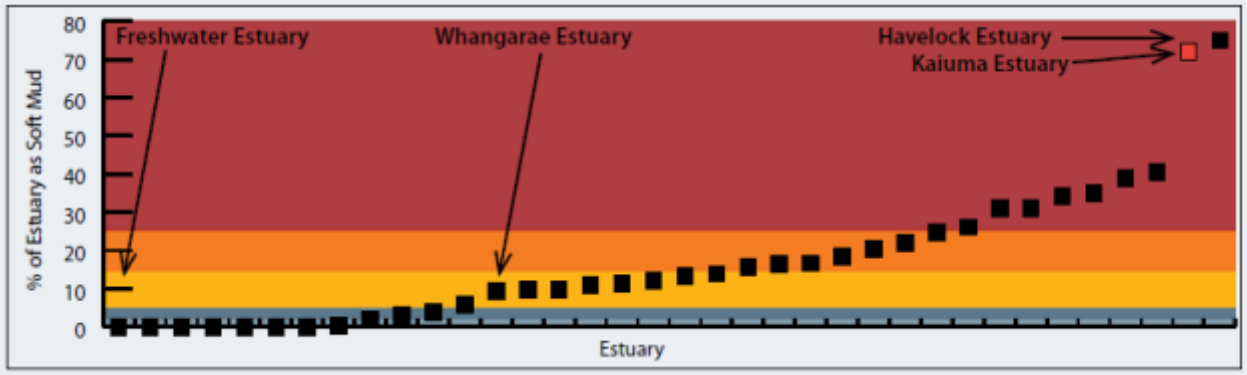

Figure 4: Percentage estuary of soft mud habitat for 35 estuaries mapped by Wriggle Limited since 2006 and from the 2002 national estuary monitoring protocol. Three of the named estuaries are in Marlborough, with freshwater estuary on Stewart Island. The Whangarae estuary report was presented to Council in 2016.

Mahakipawa Estuary

16. The situation is much the same in nearby Mahakipawa estuary. The 137.5 hectare area is dominated by soft/very soft mud (61%) which is a similar proportion to Kaiuma and Havelock. All three estuaries have extensive saltmarsh remaining and relatively scarce areas of once-abundant seagrass beds. Seagrass remains in one small patch of 0.02 hectare in Mahakipawa (Figure 5).

17. Mahikapawa, Kaiuma and Havelock form a complex estuarine delta system, so they all receive inputs from the Kaituna and Te Hoiere/Pelorus Rivers. The 'Havelock inflow' as characterised in the recent 1000 year history of benthic change in Pelorus Sound done by NIWA for Council.

18. Mahakipawa has been subject to historical sedimentation inputs from gold mining, timber felling and land clearance. Unlike Kaiuma, where an estuary condition report was done in 2005 that showed the estuary has deteriorated, there is no similar modern baseline for Mahakipawa.

19. It is difficult to determine how contemporary sediment levels compare to those over the last 150 years. It is plausible that the estuary has been getting muddier though, given the changes in Kaiuma, and also the Havelock estuary which increased in muddiness between 2001 and 2014.

20. Modern sedimentation rates for the three estuaries and the relative proportions of different catchment sediment sources can be determined from sediment cores. Cores were extracted from the Havelock estuary in March 2017. Results are due to be reported to Council in mid-2018.

21. Invasive Pacific oysters have formed extensive beds in the soft muds in the centre of the estuary (Figure 5). These non-native oysters also form large beds in the Havelock estuary, but are scarce in Kaiuma. Oysters stabilise the sediments and trap fine muds, but can alter ecosystem functioning and displace native species. However, they also provide a recreational food source.

22. The sediment nutrient and contaminant survey did not reveal anything of concern. Although total organic content and nitrogen indicated possible minor stress on sensitive organisms, this was not considered to be reflective of eutrophication.

Figure 5: Extent of seagrass (left) and invasive oyster beds (right) in Mahakipawa estuary

Summary

23. Ecological surveys have been undertaken at Kaiuma and Mahakipawa estuaries in 2017. A contemporary baseline has now been established. Both estuaries were dominated by soft and very soft mud habitats, which place them amongst the most muddiest in the country, along with the nearby Havelock estuary. The consequences of muddiness are a reduction in biodiversity and valuable habitats for birds, fish and invertebrates. The ecologists from SLR and Wriggle recommend that sedimentation inputs into each estuary be reduced to encourage the estuaries to be gradually flushed out. This will assist the natural recovery of the ecologically valuable seagrass beds, which are now restricted to remnant patches in both estuaries.

RECOMMENDED

That the reports be received.

5. Underwater Soundscape in Tōtaranui/Queen Charlotte Sound

(Clr Hope) (Report prepared by Dr Steve Urlich) **E325-008-001-05, E325-016-002-03**

Purpose

1. Provide the Committee with a report by the National Institute of Water and Atmospheric Research (NIWA) characterising underwater noise in Tōtaranui/Queen Charlotte Sound.

2. **Separately attached** is the NIWA report "Passive acoustic monitoring in the greater Cook Strait region with particular focus on Queen Charlotte Sound/Tōtaranui".

3.	**Dr Kim Goetz, Marine Ecologist at NIWA, will present the report (15 minutes).**

Background

4. Underwater noise is an increasing area of concern in marine environments. Human activities such as commercial shipping, recreational boating and seismic surveying can cause adverse effects to marine life, particularly marine mammals, depending on the type, frequency and duration of noise.

5. Tōtaranui/Queen Charlotte Sound (QCS) is a busy place in summer with many recreational vessels, cruise line traffic, as well as regular ferry movements. There are also a number of dolphin species, including resident Hector's and visiting dusky, bottlenose, orca and common dolphins. Hector's dolphins, bottlenose dolphins, and orca are listed as threatened species.

6. Most people have heard about marine mammal vocalisations, such as whale song and dolphin clicks and whistles, but fish chorusing is less well known. It is not known how many fish species, such as red gurnard, communicate using sound. How human activities affect these natural underwater conversations is an emerging research area.

7. The Resource Management Act requires every person carrying out an activity in, on or under the coastal marine area to adopt the best practicable option to ensure that the emission of noise does not exceed a reasonable level. However, we have no baseline of underwater noise on which to make such an assessment on marine mammals for example, should one ever become necessary.

8. Passive acoustic monitoring provides a long-term, diurnal record of the underwater soundscape. Data are recorded from different noise sources depending on the proximity of the noise and its frequency (KHz). Its limitation is that it is usually confined to one location, so high frequency sources such as outboard motors and dolphin clicks need to be in close proximity for detection.

9. The advantage of passive acoustic monitoring is that it provides a non-invasive continuous record. This overcomes the limitation of boat surveys which are typically limited to daylight hours in deploying hydrophones, or are too expensive for long periods of time. For marine mammals, it provides a night time record, overcoming the limitation of observers scanning around the vessel in daylight hours to identify individual marine mammals by photography and/or DNA samples.

10. Council staff heard in 2016 that NIWA were characterising underwater noise in Cook Strait www.stuff.co.nz/environment/80782491/scientists-hope-to-discover-marine-mammal-hot-spot-in-the-cook-strait. This involved the installation of passive acoustic monitoring devices in six offshore locations by Dr Kim Goetz and her team at NIWA (Figure 6Figure 6: Passive acoustic monitoring device installed by NIWA in 2016 at seven locations in Cook Strait, including Tōtaranui/Queen Charlotte Sound (Labelled #1).). Dr Goetz advised that she had a spare shallow water device which could be deployed in QCS for six months from July 2016.

11. At this time, Council had just joined with Land Information NZ to map the seafloor in QCS using multibeam echosounder sonar technology. The passive acoustic device was seen as a potential opportunity to detect dolphin species prior to, and during, the first part of the survey. These data would provide a record in the unlikely event that marine mammals vacated the area.

12. The scientific information Council held indicated that the effects of the multibeam would be negligible, as its high frequency sound waves are at, or beyond, audibility for marine mammals. Observations from the NIWA survey vessels over the course of the eight month survey, which finished in June 2017, confirmed that marine mammal species were present throughout that period. These sightings are presented in Appendix A of the NIWA report (an excerpt is in Figure 7).

13. Council paid for the deployment and retrieval of the equipment, and obtained an Envirolink grant for the analysis and reporting of the data. Envirolink is the Ministry for Business, Innovation and Employment's science transfer funding scheme which the smaller regional and unitary councils are able to utilise for access to Crown Research Institute and university expertise.

14. The passive acoustic device was placed on the seabed midway between Tory Channel and Blumine Island. It recorded between 20 July and 15 December 2016, which included detecting the magnitude 7.8 Kaikoura earthquake on 14 November. The offshore detectors were also retrieved around the same time and the data analysed together. This showed that seismic survey operations for oil exploration off the Taranaki and East Coasts were detected in Cook Strait but not in QCS.

15. As expected, QCS is a noisy place with vessel traffic recorded 12 hours per day on average. This was immediately prior to the busy summer holiday season, so noise levels would have increased significantly over Christmas and January. Most detections were for relatively short time periods reflecting the close proximity of boats and their high frequency noise which dissipates quickly.

16. Hector's and unidentified dolphin species were the only confirmed marine mammals detected. More recordings were at night. The presence of marine mammals indicates that they are able to coexist with the present soundscape. Fish choruses were detected daily around dusk throughout the six month recording period in QCS.

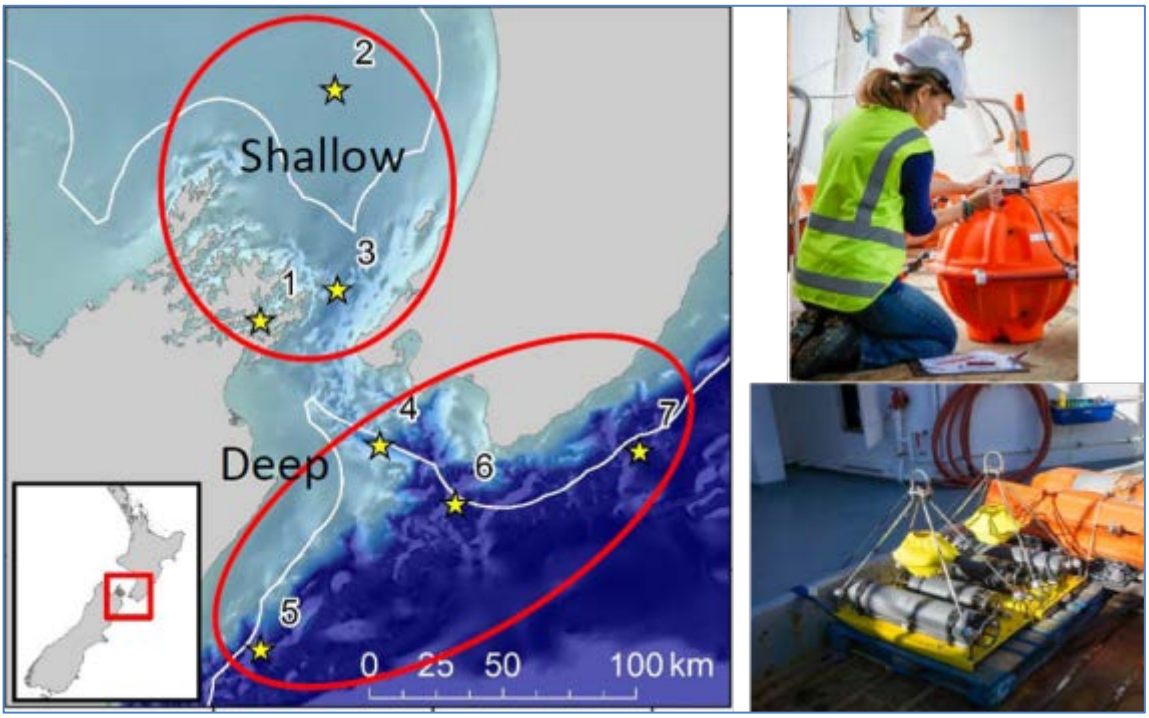

Figure 6: Passive acoustic monitoring device installed by NIWA in 2016 at seven locations in Cook Strait, including Tōtaranui/Queen Charlotte Sound (Labelled #1).

17. The NIWA report provides a useful insight into underwater noise. It is a partial baseline as the study was not carried out for a full year. Its value is augmented by the visual sightings recorded

during the eight month multibeam survey by NIWA and DML vessel personnel. Both these projects are unlikely to be repeated in the foreseeable future. Nevertheless, they are of scientific interest to other researchers and of general interest to the community.

18. The wider interest has been shown with media coverage of the preliminary findings of the survey have captured national attention; for example: http://www.radionz.co.nz/news/national/327694/rare-whales%27-calls-heard-for-first-time-in-cook-strait

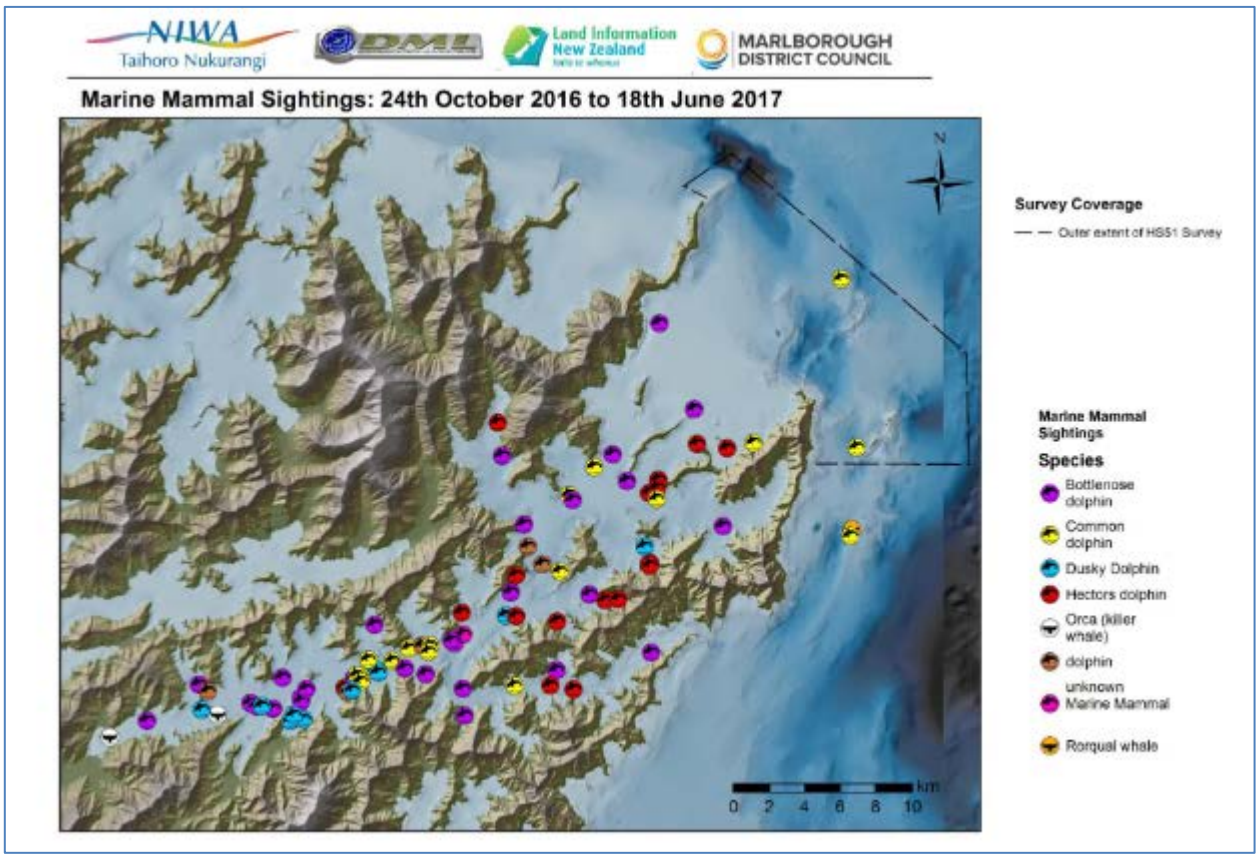

Figure 7: NIWA/DML record of dolphin and whale sightings over the course of the multibeam seafloor survey October 2016 - June 2017. NZ fur seal sightings excluded for clarity.

Summary

19. NIWA have characterised the underwater soundscape of Tōtaranui/Queen Charlotte Sound (QCS) and identified noise from natural, biological and anthropogenic (human) sources. This provides a useful insight into how human activities manifest underwater in QCS. It is reassuring that no noise from oil exploration vessels was detected within the Sounds, and that marine mammals appear to be able to coexist with existing noise levels. It is also apparent that the multibeam survey did not result in marine mammals vacating the area, despite fears expressed through the media.

RECOMMENDED

That the report be received.

6. Coastal Water Quality Scorecard

(Clr Hope) (Report prepared by Karlien Hayns) **E325-002-001**

Purpose

1. To update the Committee on the state of the water quality of the Marlborough Sounds.

2. **Appendix 1** is the Coastal Water Quality - Monitoring 2016/17 Report Card.

3.	**Karlien Heyns, Environmental Monitoring Officer, will give a presentation (10 minutes).**

Background

4. The Council has an ongoing coastal water quality monitoring programme in the Marlborough Sounds. 11 sites are monitored in both the Te Hoiere/Pelorus and Tōtaranui/Queen Charlotte Sounds on a monthly basis. The purpose of the monitoring is to:

   a) Gain an understanding of nutrient and plankton dynamics in time and space.

   b) Detect changes in water quality to enable management interventions to occur.

   c) Inform the community about the state of the aquatic ecosystems in the Sounds.

   d) Contribute to biophysical modelling of the effects of aquaculture and check the predictions of that modelling.

5. The monitoring has occurred since 2011 in Tōtaranui/Queen Charlotte Sound (QCS) and since 2012 in Te Hoiere/Pelorus Sound (Pelorus).

6. It is important to build an ongoing State of the Environment time-series of monitoring data to help us distinguish between natural or human-induced changes to water quality. For example, long-term patterns of seasonal variation need to be teased out from increased nutrient inputs from human activities, such as aquaculture or land use.

7. The report card summarises the trends in the nitrate-nitrogen, chlorophyll-a, and dissolved oxygen since monitoring began. These are considered the most sensitive to change of the suite of indicators we monitor in the coastal waters of the Sounds.

8. The amount of nitrate-nitrogen is one of the key drivers of variation in water quality. Nitrate inputs come from various sources. The main contributors in the Sounds include natural upwelling from Cook Strait, river flows and fish farms. Too much nitrate can lead to nutrient over-enrichment (eutrophication), which can in turn cause various negative effects on the coastal ecosystem.

9. Chlorophyll-a, as a measure of algal or plankton growth, generally increases with an increase in nitrate if sufficient light conditions and warmer sea surface temperatures occur. Excess plankton growth can lead to blooms, which can lower or even deplete available oxygen, and thereby harm or kill organisms in the water column and on the seafloor.

10. Dissolved oxygen tends to be lower in the bottom waters during summer because the temperature gradient causes the water to “split” or stratify into warmer water at the top and colder water at the bottom. In winter, temperatures are more uniform and the water column mixes so that dissolved oxygen is also more uniform throughout from surface to bottom.

11. Monitoring data also enable us to determine trends in concentrations of other nutrients, the amount of sediment particles present and the physical properties of the water column. This helps build a more complete picture of how the system is functioning and responding to various physical and chemical changes.

12. Understanding the dynamics of these systems is important in achieving sustainable management. NIWA's hydrodynamic models are useful in helping to inform this and in predicting how the systems will respond to chemical changes in the water, while ongoing monitoring results give the exact concentrations of nutrients at any point in time. Therefore, for example, we can measure fish farm inputs and determine whether nutrients coming from the farms are having an observable effect.

13. Monitoring results to date show that inputs from fish farms have not discernibly affected the natural variation of nutrients and resulting chlorophyll-a or dissolved oxygen levels.

14. There are other parameters that Council monitors, such as dissolved silica and phosphorus, which are not presented in the scorecard. Council commissioned NIWA to undertake an analysis of all water quality parameters in June 2015, which did not show any cause for concern. There have been no significant changes in the monthly monitoring results since then. The next comprehensive assessment is scheduled for June 2018 and will be reported through the Environment Committee.

15. That report will provide quantitative trends in water quality parameters over seven years in QCS and six years in Pelorus. It will assist in a greater understanding of the effects of existing fish farms as they increase discharge over time at the three farms granted by the Environmental Protection Agency's 2012 Board of Inquiry: Waitata and Richmond (or Kopaua as it is now known) and Ngamahau.

16. Council staff are scoping a review of water quality monitoring design given the availability of new technologies that can provide greater temporal monitoring coverage than our current programme. These are monitoring buoys which measure water quality parameters 365 days a year (Figure 8). Tasman, Auckland, Hawke's Bay and Waikato have now deployed them, and the data from continuously recording instruments are electronically telemetered to a public website.

17. This review will get underway with the aim of informing Council's long-term planning process in early 2018. Monitoring buoys are expensive to purchase and to maintain. A community-of-interest that can potentially co-fund a network has been identified. These include the aquaculture and forestry industries. Co-investment discussions will be held over the next six months.

Figure 8: The Hawke's Bay Regional Council monitoring buoy.

Summary

18. The State of the Environment report card on coastal water quality has been developed. This summarises monitoring results from six years of monitoring in Tōtaranui/Queen Charlotte Sound and five years in Te Hoiere/Pelorus Sound for key water quality attributes. The report card shows that nitrate-nitrogen and chlorophyll-a levels fluctuate within acceptable limits. Council staff are scoping a review of monitoring given the availability of sophisticated monitoring buoys.

RECOMMENDED

That the report card be received.

APPENDIX 1

MARLBOROUGH DISTRICT COUNCIL

Coastal Water Quality - Monitoring 2016/2017

Key Points

- Council has an ongoing Sounds monitoring programme to determine water quality
- The data lets us distinguish between natural vs anthropogenic changes in conditions
- Nutrients such as nitrate can have direct effects on water quality
- The main external sources of extra nitrate are from the surrounding land and from fish farms
- Algal growth, measured as chlorophyll-*a*, increases with an increase in nitrate
- This may lead to algal blooms which have various negative follow-on effects
- Monitoring results show that nitrate levels are within desirable limits
- Council's monitoring data feeds into the hydrodynamic models

What is Marlborough District Council doing?

Long-term monitoring is essential to identify any changes in the water quality over time and to determine how water quality is affected by inputs from different sources.

Council monitors and collects samples and data monthly in Tōtaranui/Queen Charlotte Sound and Te Hoiere/Pelorus Sound. This gives a good indication of natural seasonal changes and catchment influences, and long-term data enables us to identify irregularities and determine their causes by inter-linking it with other measurements taken around the same period e.g. rainfall.

Council has been monitoring Tōtaranui/Queen Charlotte Sound since 2011, and Te Hoiere/Pelorus Sound since 2012. There are a total of 11 sites in each Sound that are sampled throughout the main channel of each Sound, and in the major side-arms (Figure 1).

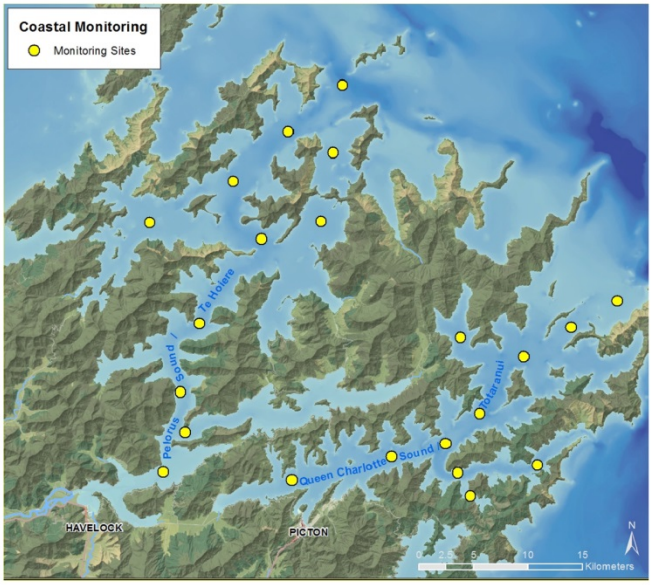

Figure 1: Map of sampling site locations in the Marlborough Sounds.

What we measure

- Chlorophyll-*a* and dissolved oxygen. These are important indicators of ecosystem health.
- Various nutrients, including nitrate, directly influence the health of the ecosystem.
- The amount of sediment particles in the water. Fine sediment affects the clarity of the water and can therefore impact on the aesthetic values of the Sounds. It can also smother the sea bed, reducing biodiversity.
- Physical properties of the water column as it changes with depth. The changes in water temperature, salinity and other physical measures with increasing depth provide information about the amount of mixing in the water column and the direction of water movement.

Why we measure?

Our measurements show the movement of the water and resulting transportation patterns of nutrients in the system, as detailed in NIWA's hydrodynamic models. This allows us to predict how the system will respond to changes in e.g. nutrient levels. We can see which changes need to be made to promote the sustainability and health of the Sounds, as summarised in the State of the Environment Report (2015).

This is especially important in the Marlborough Sounds, where high aquaculture use and farming in the catchments have the potential to cause nutrient enrichment and change the trophic state of the ecosystem.

The monitoring data adds to a baseline dataset over time — something that we can use as "normal" values to compare results to that may indicate changes.

What is chlorophyll-*a*?

Chlorophyll-*a* is the main colour pigment of algae used for photosynthesis. The measurement of chlorophyll-*a* is an efficient way of monitoring the amount of algae in the water. Algae drive productivity through the food chain, therefore high chlorophyll-*a* concentrations are an indication of high algae concentrations.

The importance of chlorophyll-*a*, dissolved oxygen and nitrate

Chlorophyll-*a* and dissolved oxygen are affected by nutrient input, and these trends can be detected over time compared to baseline levels and values within certain thresholds.

Nitrate is one of the main nutrients required by algae for photosynthesis. Therefore an increase in nitrate concentrations can lead to increased algal growth (higher chlorophyll-*a* concentrations). This can lead to greener or "dirtier" looking water, which affects the aesthetics and recreational use of the Sounds. More importantly, it could cause very low oxygen concentrations in the bottom waters as the extra organic matter sinks to the bottom where it is broken down - a process that uses up the oxygen. If dissolved oxygen concentrations are too low, it may prove detrimental to the organisms living there.

Fish Farms

If the fish farms are run with good practices and according to prescribed guidelines, there should not be a problem. The Sounds hydrodynamic models suggest that it is unlikely for the current level of fish farming to change the trophic state of the water; however, in order to ensure the sustainable use of the Sounds, ongoing monitoring is needed to confirm whether adverse effects on the surrounding marine environment unexpectedly develop.

Currently chlorophyll-*a* appears to have not been affected by nutrients from fish farms.

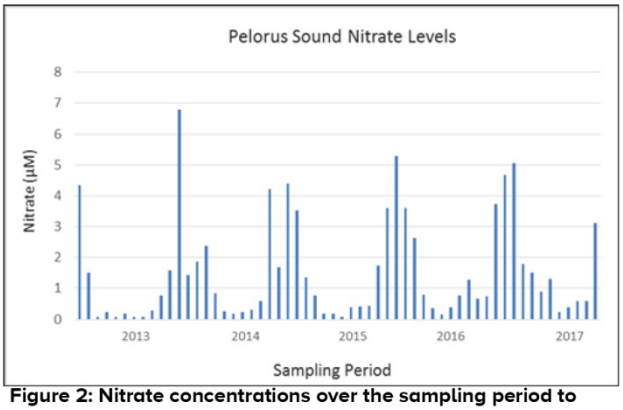

Figure 2: Nitrate concentrations over the sampling period to date in the Te Hoiere/Pelorus Sound.

Seasonal Patterns

Chlorophyll-*a* shows a seasonal pattern affected by different concentrations of nutrients (mainly nitrate) and seasonal light conditions. Nitrate concentrations increase during winter when river flows are higher (Figure 2), as rivers and streams are the main source of nitrate from land. Because no large rivers flow into Tōtaranui/Queen Charlotte Sound the seasonal nitrate patterns are not as strong compared to Te Hoiere/ Pelorus Sound.

Nutrient-rich oceanic waters from the Cook Strait coming into the outer Sounds also bring in nitrate.

Despite the higher nitrate concentrations, algal biomass is low in winter due to reduced growth caused by lower water temperatures and shorter days (Figure 3). This acts as a break to naturally "reset" the system.

Dissolved oxygen changes throughout the seasons as the water column becomes layered during warmer months, and mixed during colder months. This is an area subject to ongoing research to characterise these seasonal patterns more clearly.

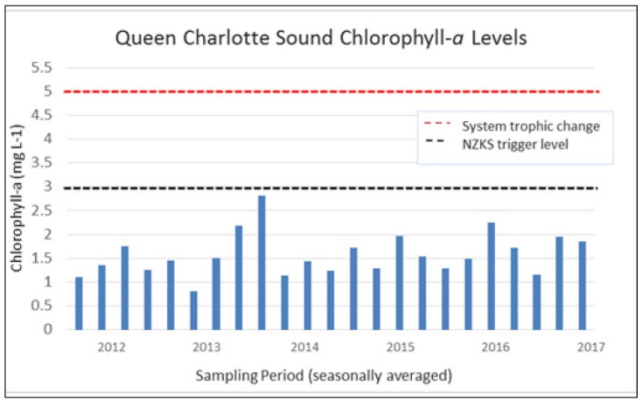

Figure 3: Average chlorophyll-*a* concentrations over the course of a year in the Totaranui/Queen Charlotte Sound.

Want to know more? www.marlborough.govt.nz

- *A Biophysical model for the Marlborough Sounds, Part One and Two* by NIWA simulates water movement through the Sounds and predict nutrient concentrations, and subsequent rates of phytosynthesis.
- *Water Quality in the Marlborough Sounds — Annual Monitoring report July 2014-June 2015* by NIWA over that monitoring period.
- *2015 State of the Environment's* Coastal chapter gives an overview of Marlborough's coastal environments, pressures on water quality and current state thereof, as well as management of effects of aquaculture.

Published July 2017
(Ref E325-002-001)

For more information on coastal water quality go to
www.marlborough.govt.nz/environmental/coastal
Marlborough District Council
Seymour Square, Blenheim. Telephone 03 520 7400 Fax 03 520 7496

7. Recreational Water Quality - Summer 2016/2017
(also refer to separate attachment)

(Clr Hope) (Report prepared by Steffi Henkel) **E370-007-001**

Purpose

1. To present the 2016/17 Recreational Water Quality State of the Environment Report (**attached separately**).

2.	**Steffi Henkel, Environmental Scientist Water Quality, will give a presentation (10 minutes).**

Background

3. Twelve coastal beaches and nine river sites were sampled weekly from the beginning of November 2016 until the end of March 2017.

4. Samples were analysed for the concentration of faecal indicator bacteria; E. coli for river samples, Enterococci for coastal samples. These bacteria are an indicator for faecal contamination, which has the potential to affect the health of recreational water users, such as swimmers and surfers.

5. In order to determine if water quality was safe for recreational activities such as swimming, the sampling results were assessed according to national guidelines (Figure 9).

Mode	Freshwater E. coli/100mL	Coastal Enterococci/100mL	Meaning	Required Action
Green Mode	<260	<140	**Safe** for contact recreation	Conitue routine monitoring
	260	140	**Alert Guideline**	
Alert Mode	260 - 550	140 - 280	**Increased risk** for health	Investigate possible causes and increase sampling frequency if no cause can be found, otherwise continue routine sampling
	550	280	**Action Guideline**	
Action Mode	>550	>280	**Unsafe** for conctact recreation	Increase sampling frequency and warn the public that the beach is considered unsafe (Warning signs)

Figure 9: Microbial Water Quality Guidelines for Contact Recreational Waters.

Results

6. The majority of the coastal sites had recreational water quality consistently safe for swimming. Only two of the 12 coastal beaches had Enterococci concentrations considered unsafe for recreational activities. These sites were Moeatpu Bay - Double Bay Reserve and Waikutakuta/Robin Hood Bay - East.

7. At both sites the high bacteria concentrations were caused by prolonged survival and possible procreation of faecal bacteria in organic material and sediment that was deposited onto the beach following intense rainfall events.

8. The effect was particularly noticeable at Waikutakuta/Robin Hood Bay - East where large deposits of gorse were causing extremely high Enterococci concentrations during high tide when a substantial amount of the gorse became submerged in the surf. Once most of the gorse was removed bacteria concentrations declined.

9. The majority of river sites had consistently low E. coli concentrations with only occasional samples indicating a slightly increased health risk.

10. Following the Kaikoura earthquake heavy rainfall caused flooding in some parts of the region, which would have resulted in unsafe E. coli concentrations at a number of river sites. Due to road damage caused by the earthquake, samples were not taken during this event, but it is unlikely that persons were swimming at the time.

11. An earlier rainfall event caused unsafe E. coli concentrations in the Rai River at Rai Falls and the Te Hoiere/Pelorus River at Totara Flat, but concentrations quickly returned to safe levels.

12. The Taylor River had again the worst recreational water quality, with a number of samples with unsafe E. coli concentrations taken during lower flows. Although, the long-term trend shows some improvements, further damage to parts of the Blenheim sewerage system during the recent Kaikoura earthquake is likely to result in increased E. coli concentrations. Due to the extensive damage to particularly the older earthenware pipes, all pipes of this type will be replaced in the coming years. This should result in less cross contamination between the sewerage and stormwater systems and subsequently result in better water quality in the Taylor River in the future.

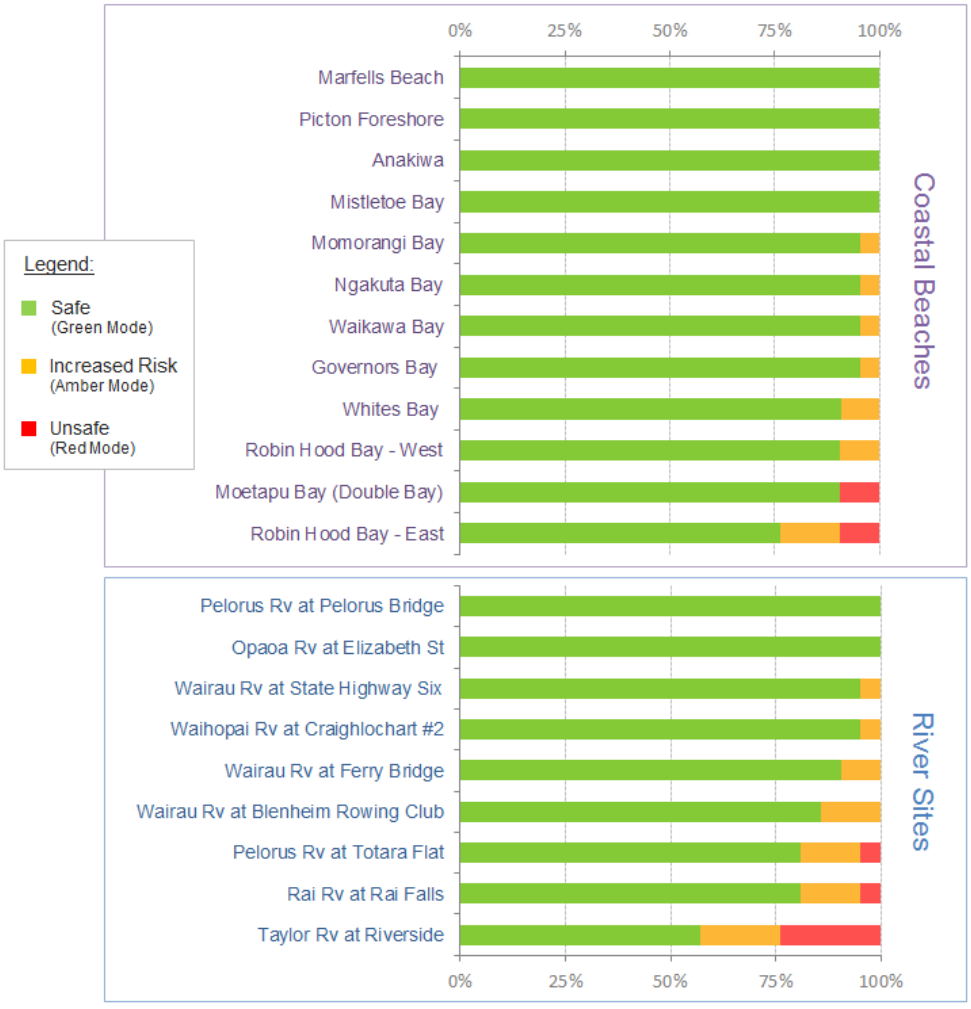

Figure 10: Percentage of routine samples taken during the summer season of 2015/2016 within the Guideline 'Modes'.

13. The sampling results were also analysed together with results from previous summer seasons to calculated SFR Grades, which represent the overall suitability of water quality for swimming at the sites.

14. The majority of sites have a SFR Grade of "Fair" (Figure 11). Only one site, the Taylor River at Riverside, is graded "Very Poor". Three sites are graded "Poor", but a larger number of sites (seven) have a SFR Grade of either "Very Good" or "Good".

Figure 11: SFR Grades for the sites monitored during the 2016/17 summer season.

15. Using the monitoring data to assign E. coli state band according to the National Policy Statement for Freshwater (NPS-FM) revealed that the SFR grading is generally more stringent than both the current NPS-FM and the proposed changes to the NPS-FM.

Summary

16. During the summer months weekly sampling was carried out at popular coastal beaches and river swimming holes.

17. The results of the sampling show that at least one sample from two coastal beaches and three river sites had faecal indicator bacteria concentrations indicating an unacceptable health risk to swimmers, however, the water quality at most of the sites was safe for swimming during the entire summer period.

18. Monitoring results from previous summer sampling were combined with this season's results to assign overall grades to sites that had been samples for at least five seasons.

19. Four sites have a grade of "Poor" or "Very Poor", but most sites are graded as "Fair" with the second largest number of sites graded as "Good" or "Very Good".

RECOMMENDED

That the report be received.

8. Our Fresh Water – 2017

(Clr Hope) (Report prepared by Steffi Henkel) **E375-016-001**

Purpose

1. Provide the Committee with a summary of the report "Our Fresh Water - 2017" that was jointly produced by the Ministry for the Environment and Statistics New Zealand. Also presented are comparisons between the report's modelled data and local monitoring information.

2.	**Steffi Henkel, Environmental Scientist Water Quality, will give a presentation (10 minutes).**

Background

3. Under the Environmental Reporting Act 2015, government is required to publish reports on the state of the environment. For this, environmental topics were divided into five domains: air, atmosphere and climate, fresh water, land and marine. "Our Fresh Water 2017" is the first stand-alone report on fresh water and is considered to be a baseline for future reports.

4. The report covers three main themes:

   a) Water quality

   b) Water quantity and flow

   c) Ecosystems, habitats and species

5. This agenda item will focus on report findings about water quality, but also present some of the information about fresh water ecosystems, habitats and species.

Comments

6. Abundant, good quality water in our rivers and lakes is of great importance to New Zealand, not only for economic reasons, but also to provide for recreational, cultural, food gathering and drinking water needs.

7. The way we use and manage our land has the greatest effect on the quality of our fresh water. Clearance of native vegetation and drainage of wetlands to create agricultural and residential use areas has occurred since the first people arrived in New Zealand. As of 2012 about 40% of land had been converted to pasture, 8% to production forest and 2% to horticulture. The area of wetlands has been reduced to approximately 10% of their original extent.

8. Agricultural intensification in New Zealand has been at one of the highest rates in the world in recent decades, but land use practices are not yet at intensities seen in other developed countries. Intensification results in higher levels of nutrients and other contaminants in our waterways and groundwater.

9. The "Our Fresh Water 2017" report presents maps showing the observed concentrations of Nitrate-Nitrogen, Dissolved Reactive Phosphorus and E. coli for sites with a sufficient number of data points.

State

10. The data from monitored sites showed that median concentrations for these parameters were highest in urban areas, followed by pasture dominated catchments.

11. At the time of statistical analysis, some regions did not have sufficient data to be included in the reporting; Marlborough is one of these regions. The report uses data from 1994/2004 through to

2013. However; in Marlborough, monitoring at the required monthly frequency only began in 2007/2008. Exceptions are two Wairau River sites that have been monitored by NIWA since 1989.

12. In order to provide information for almost the entire river network, the available monitoring results were used to model median concentrations for a number of parameters, including Nitrate-Nitrogen, Dissolved Reactive Phosphorus and E. coli concentrations.

13. For Marlborough the model shows that for all three parameters, the highest concentrations are generally observed in the lowland areas of the larger streams and rivers, particularly the Wairau Valley and Wairau Plain as well as parts of the East Coast. Most other areas have relatively low concentrations.

14. Combining the model output with the monitoring information from our State of the Environment programme allows a comparison of local water quality to the national picture. However, it needs to be noted that slightly different time periods are compared, 2004-2013 for the modelled data versus 2007-2016 for the monitoring data. Still, both data sets cover a period of 10 years, which is generally considered a significantly long enough period to eliminate differences due to weather patterns.

Nitrogen Concentrations

15. In "Our Fresh Water 2017" Nitrate and Ammonical Nitrogen concentrations are compared to the toxicity limits set out in the National Policy Statement for Freshwater Management (NPS-FM) 2014. The NPS-FM defines the state of water quality in bands ranging from A to D. The A Band represents best water quality, while the D Band indicates unacceptable water quality, referred to as the national bottom line.

16. Nationally, the model data shows that most rivers and streams had Ammonical Nitrogen and Nitrate-Nitrogen concentrations within the A Band (Figure 12). For Marlborough the modelled data shows a greater percentage of river length in the A Band when compared to the national percentages.

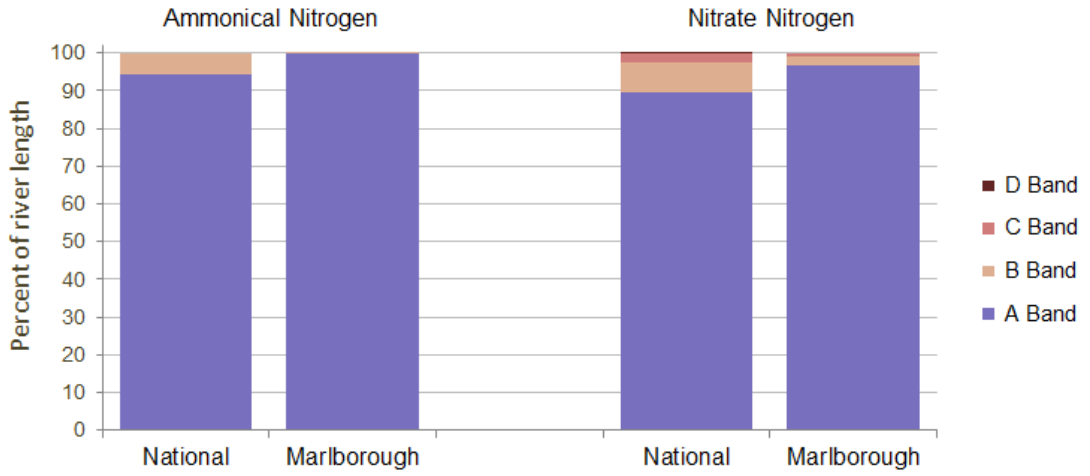

Figure 12: Comparison of national and regional modelled Ammonical Nitrogen and Nitrate Nitrogen concentrations by NPS-FM bands.

17. Comparison of the model data for Nitrate-Nitrogen with our monitoring data shows varying differences across the region (Figure 13). For the majority of sites measured concentrations are greater than the modelled values, particularly in the northern part of the region.

18. Unfortunately, there are no supplementary documents that provide insight on how the model was built, including the assumptions that were made.

19. The discrepancy between model and measurements is greatest in some of the dairy catchments, including the Rai and Kaituna Rivers. This might be the result of the use of general land covers for the model, which do not distinguish between different types of high-intensity pasture uses.

20. Nitrate loss from similar pastoral land uses in other regions might also be significantly lower due to more stringent rules, which include maximum leachate rates or requiring landowners to supply regular nutrient budgets. This often results in better management of fertilizer and effluent application.

21. The greatest difference between modelled and monitored Nitrate-Nitrogen concentration is observed in Mill Creek, a spring-fed tributary of the Wairau River (located near Wairau Valley Township). This site has the highest Nitrate concentrations of all sites monitored as part of our State of the Environment programme. In regard to the NPS-FM limits this site has a state well within the B Band. The substantial difference between modelled and observed Nitrate-Nitrogen concentrations indicates that the Mill Creek catchment (including the wider groundwater catchment) appears to be significantly more sensitive to land application of Nitrogen than other areas, nationally and regionally.

22. Objective 15.1b of the proposed Marlborough Environment Plan requires that water quality needs to be enhanced if Nitrate-Nitrogen concentrations are exceeding the A Band limits.

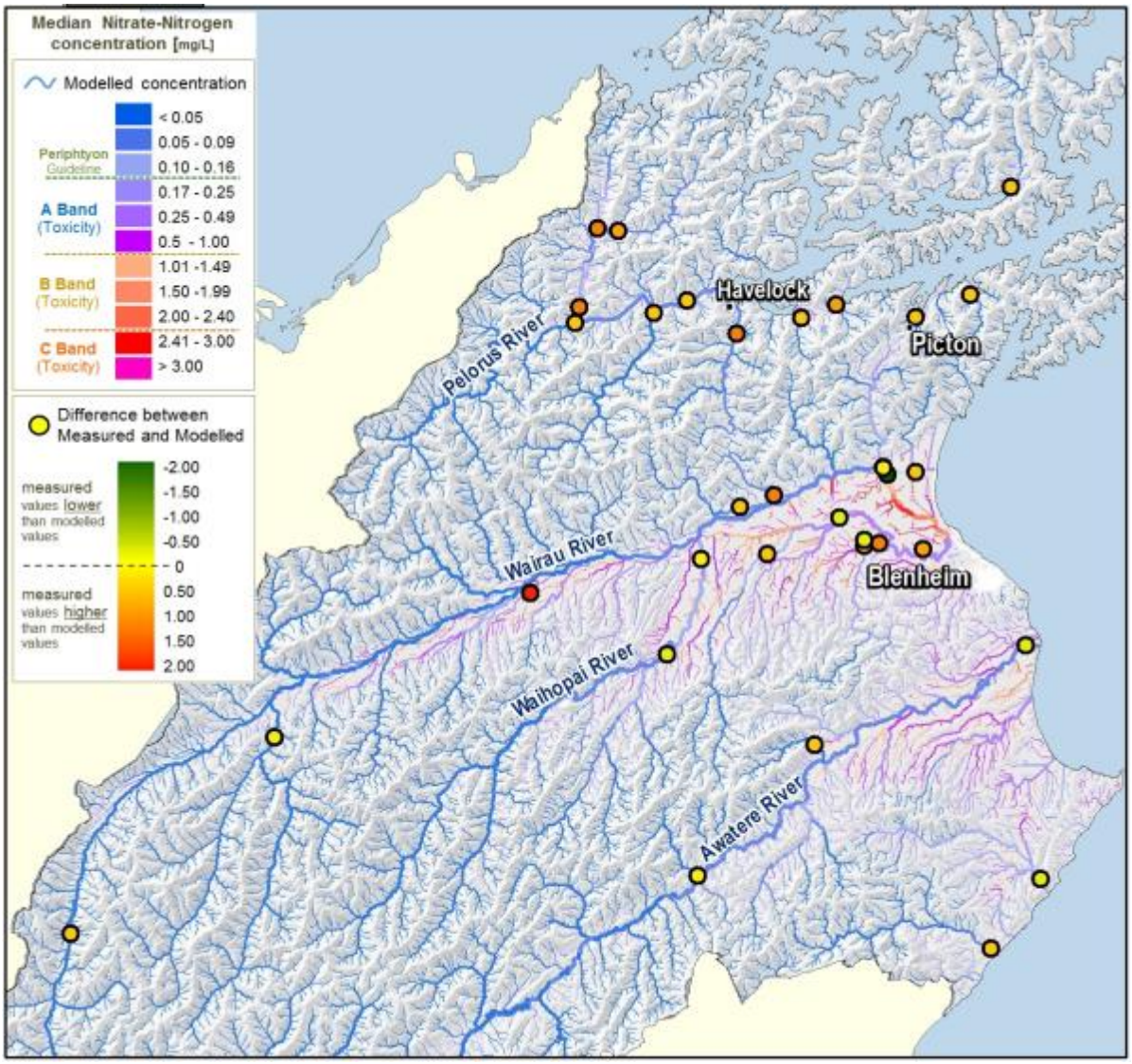

Figure 13: Comparison of modelled versus monitored Nitrate Nitrogen concentrations for the Marlborough Region.

Dissolved Reactive Phosphorus

23. The NPS-FM does not provide limits for Dissolved Reactive Phosphorus. Therefore, defining the state for this parameter was not attempted in "Our Fresh Water 2017", but the document does

provide a map with modelled median concentrations. Again, these modelled values can be compared with our monitoring data.

24. As for Nitrate-Nitrogen, the majority of sites had higher measured concentrations, but differences were generally not as pronounced (Figure 14).

25. Unlike Nitrate, Phosphorus enters waterways mainly due to erosion rather than leaching. Therefore, elevated Phosphorus concentrations are generally associated with higher turbidity. So, it is not surprising that monitored Dissolve Reactive Phosphorus concentrations in the Awatere and Waihopai River are higher than modelled values. Both rivers have naturally comparatively turbid water.

26. Modelled values for the springs on the Wairau Plain are significantly higher than observed Phosphorus concentrations. This indicates that the substantial influence of Wairau groundwater on these waterways was probably underestimated (or not accounted for) in the model.

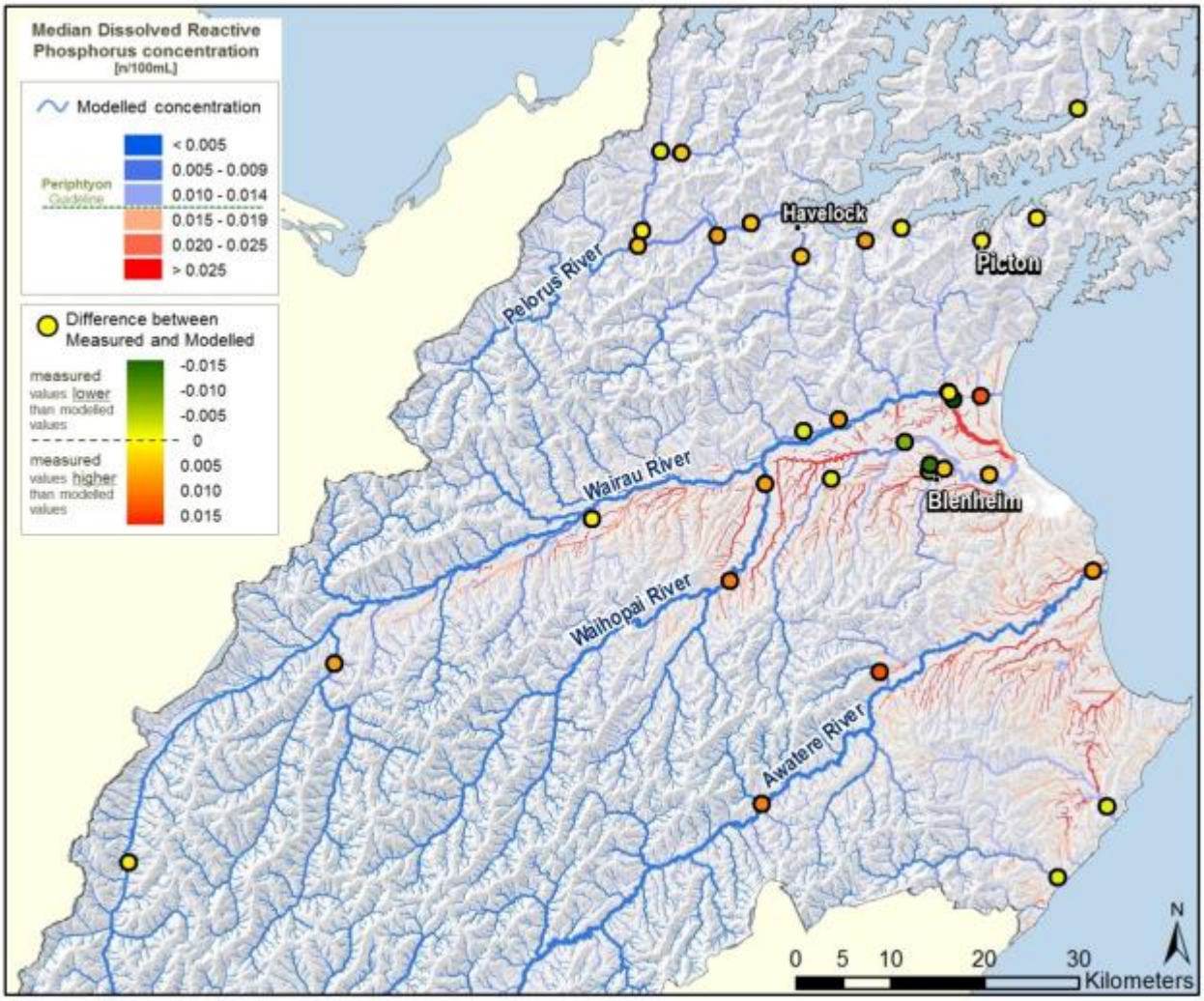

Figure 14: Comparison of modelled versus monitored Dissolved Reactive Phosphorus concentrations for the Marlborough Region.

E. coli Concentrations

27. The NPS-FM 2014 uses the 95th percentile E. coli concentrations to assess water quality for swimming, however, swimmability statistics in "Our Fresh Water 2017" are mainly based on statistics that were put forward in the proposed amendments to the NPS-FM. In fact, in the report the 95th percentile was excluded from the calculations despite the suggested continued use in the proposed amendments.

28. Using the modified statistics, 65-70% of all 4th order and larger rivers were considered swimmable. This differs from the 72% swimmability figure using all statistics included in the discussion document for the proposed amendment to the NPS-FM. Unfortunately; the underlying figures were not made available to compare the national statistics with values for Marlborough's waterways.

29. Modelled medina E. coli concentrations are provided however and can therefore be compared to monitored values. Contrasting to the comparisons for the previous two parameters, observed median E. coli concentrations are generally lower than the modelled values. This is particularly the case for the Blenheim Springs area and is likely a result of the model underestimating the influence of groundwater in these waterways (Figure 15).

30. The site with significantly higher observed levels when compared to the model is Cullen Creek near Linkwater in the Marlborough Sounds. This waterway was also identified through the State of the Environment reporting as having the highest E. coli concentrations of all sites monitored. The stream flats of Cullen Creek are part of a dairy farm. Unsuitable farming practices are the most likely cause for the high E. coli concentrations.

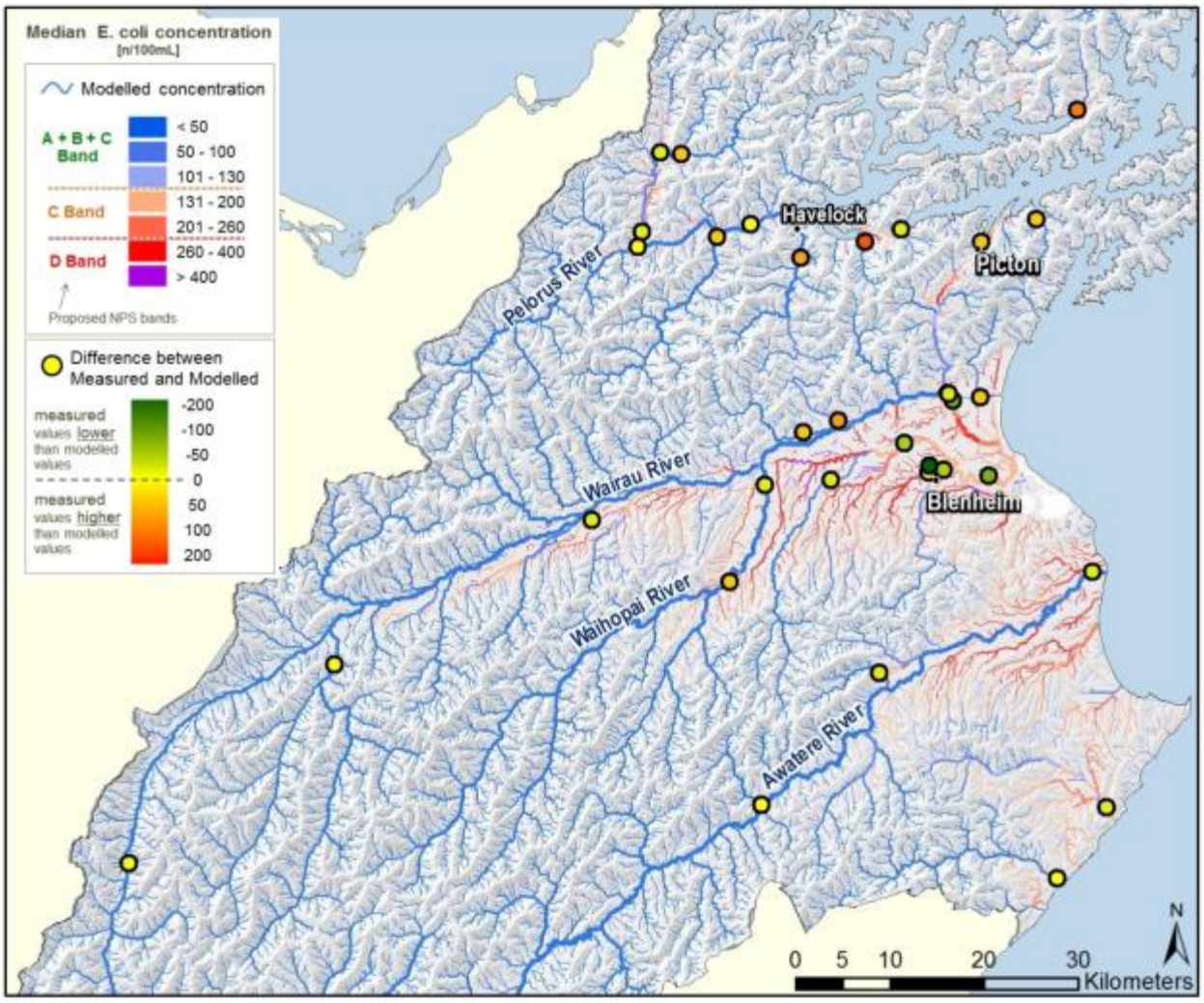

Figure 15: Comparison of modelled versus monitored E. coli concentrations for the Marlborough Region.

Trends

31. Trend analysis showed that nationally, Nitrate-Nitrogen concentrations were worsening at most sites (61%) and improving at 22% of sites, while for Dissolved Reactive Phosphorus, a greater number of sites were improving (46%) and 21% of sites were worsening (Figure 16). Most sites showed no significant changes in regard to E. coli concentrations, but 21% of sites improved, while 17% worsened.

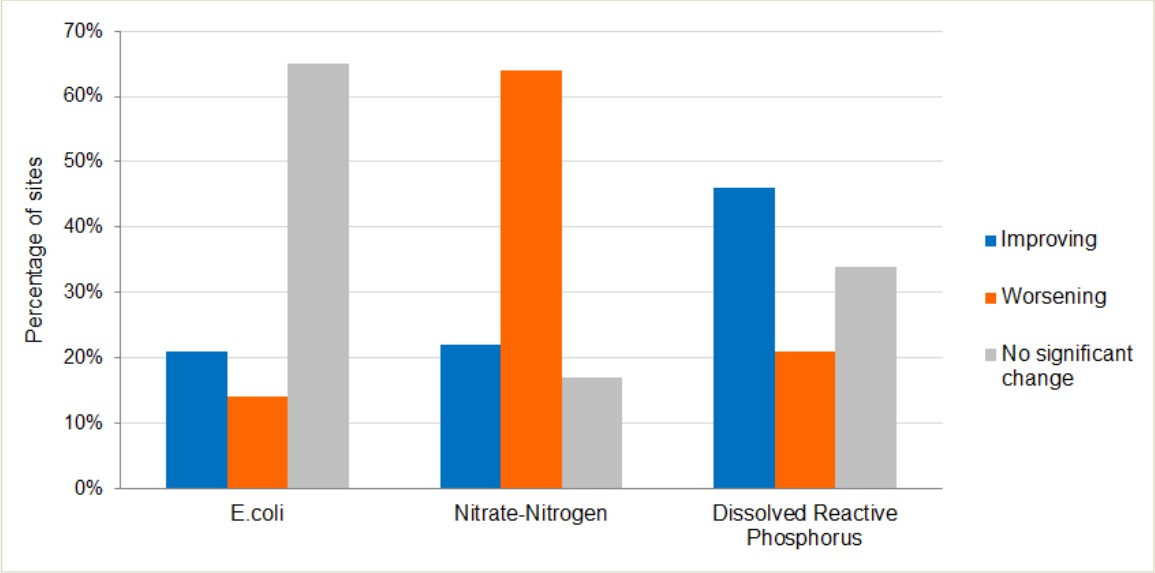

Figure 16: Trends at national river monitoring sites. 10-year trends (2004-2013) for E. coli and Nitrate-Nitrogen concentrations; 20-year trend (1994-2013) for Dissolved Reactive Phosphorus.

32. Using our data, we can calculate trends for Nitrate-Nitrogen and E. coli concentrations for 22 monitored sites in the Marlborough region. Here, a large percentage of sites show no changes for both parameters (Figure 17).

33. The trend results for E. coli concentrations in Marlborough are worse than the overall national picture; a larger percentage of sites have worsening E. coli concentrations (35%) and a smaller percentage are improving (1%). This might be a result of more stringent livestock fencing rules that have been introduced in other regions.

34. For Nitrate-Nitrogen concentrations, a significantly lower percentage of Marlborough sites have worsening levels (18%) when compared to national figures.

35. Unlike Marlborough, some regions, such as Canterbury and Otago, have experienced a significant increase in the number of dairy cattle. Nitrate leachate from dairy pasture is known to be higher when compared to other pastoral uses, which would explain the larger number of sites with worsening Nitrate-Nitrogen concentrations in the national dataset.

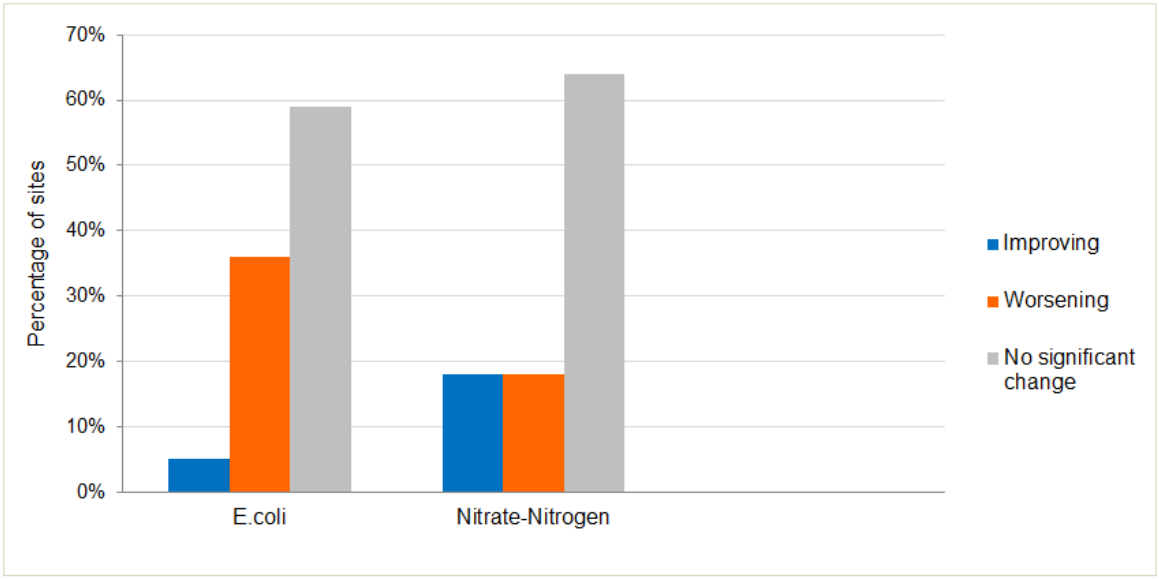

Figure 17: Trends for 22 Marlborough State of the Environment sampling sites. 10-year trends (2007-2016) for E. coli and Nitrate-Nitrogen concentrations.

Ecosystems, Habitats and Species

36. Water quality is not the only factor influencing the health of freshwater ecosystems. Channel modifications, water abstraction, river control works, removal of riparian vegetation and introduction of pests are only some of the human activities that have a negative effect on the habitat for aquatic animals.

37. As a result, many native species are under threat. Around three-quarters of our known native freshwater fish are threatened with or at risk of extinction.

38. However, fish are not the only animals affected. About one-third of our known native freshwater invertebrates are threatened with, or at risk of, extinction.

39. Many native plant species are also threatened.

40. Therefore, protection and enhancement of habitat is just as important as improving and maintaining water quality.

Summary

41. "Our Fresh Water 2017" is a national State of the Environment report on fresh water.

42. It presents the state of fresh water quality for rivers in New Zealand, with a focus on Nitrate-Nitrogen, Dissolved Reactive Phosphorus and E. coli concentrations.

43. For all of these parameters, the highest concentrations are generally found in urban streams, followed by streams flowing through pastoral land use.

44. Because of the patchy distribution of monitoring sites, concentrations were modelled for all streams and rivers to provide a better overall picture.

45. Comparison of the modelled outputs with local monitoring data showed measured Nitrate-Nitrogen and Dissolved Reactive Phosphorus concentrations were higher than the modelled values for most sites. The opposite was the case for E. coli concentrations.

46. Trend analysis showed that nationally Nitrate-Nitrogen concentrations were worsening at more sites than improving, while the opposite was true for Dissolved Reactive Phosphorus concentrations. For E. coli concentrations, the majority of sites showed no significant change.

47. Trend data for Marlborough shows that there is no significant trend for E. coli and Nitrate-Nitrogen concentrations for the majority of sites. However, a greater percentage of sites have a worsening trend for E. coli when compared to national percentages.

48. "Our Fresh Water 2017" highlights that a significant proportion of native aquatic animals and plants are threatened by extinction. Therefore habitat quality is of equal importance to good water quality.

RECOMMENDED

That the report be received.

9. Soil Quality Monitoring - Technical Report

(also refer to separate attachment)

(Clr Hope) (Report prepared by Rachel Rait) **E355-001-001-16**

Purpose

1. The purpose of the report is to summarise the state of soil quality in the Marlborough Region in 2016 (**separately attached** report by Matt Oliver).

Background

2. Councils have a responsibility for promoting the sustainable management of the natural and physical resources of their region. One of the physical resources that we have a duty under Section 35 of the Resource Management Act (1991) to monitor and report on is soil. Specifically to report on the "life supporting capacity of soil" and to determine whether current practices will meet the "foreseeable needs of future generations". The collection of detailed soil monitoring data is therefore vital because it provides information on what effect current land use activities are having on soil quality and whether we need to change or prioritise the way we manage the land environment.

3. To help meet these goals the Council undertakes a soil quality monitoring programme that involves collecting soil samples from a network of sites that represent the main land use activities and soil types within the region and analysing samples for a suite of soil physical, biological and chemical properties that have been shown to be robust indicators of soil quality.

4. The aim of this report is to summarise the current state of soil quality in the Marlborough region as determined by the results of soil analysis for the most recent sampling across a range of land use activities and soil types. A network of 96 soil quality monitoring sites has been established over the last 10 years in Marlborough.

Comments

5. Soils were sampled from 20 sites previously sampled in 2011 and 2012. In this investigation, soils were sampled from 20 monitoring sites that included 15 dairy sites, one drystock site, one unfarmed pasture site and three under native lowland forest. These sites represented seven different soil types from two soil orders.

6. It is recommended that to obtain reliable, long-term detection and prediction of trends in soil quality, up to five points along a time sequence should be obtained. Previous Soil Quality Monitoring reports have not addressed changes in soil properties over time. The initial national 500 soils programme was established in 2000. Since that time data has been gathered from 96 sites throughout Marlborough. With a five year re-visit interval between sampling, it has taken until 2016 for sufficient data to be gathered to allow some analysis of trends in soil quality.

7. This year's results indicate that, in general, the soils are in good condition, with most soil quality indicators for most sites falling within target ranges. However, 80% of sites reported soil compaction measurements outside the target range. These results put these soils at risk of poor aeration and impeded drainage, which may potentially affect pasture production and predispose the soil to surface runoff, nutrient loss, erosion and flooding. While soil compaction is not permanent, it clearly should be avoided and remediated where necessary. A range of beneficial management options to prevent and remediate soil compaction are outlined in the report.

8. Long-term trends for most trace elements are well within target ranges. However, Cadmium levels are a concern. Dairy levels are elevated and other farmed land uses show rising levels. While levels are not likely to exceed target ranges in the short-term, continued use of phosphate fertiliser will mean levels will continue to rise and continued monitoring will be required.

9. With the introduction of the long-term analysis, a number of issues have been isolated regarding the collection of data for soil quality reporting. These include unclear location of some sites, excessive influence of data outliers from historic sampling, insufficient sample numbers for some land uses and inadequate frequency of sampling. In addition, a number of changes have been suggested for Soil Quality Monitoring nationally to more closely align regions. It is recommended that the sampling programme is reviewed with these issues in mind prior to the next sampling round in October 2017.

Summary

10. Soil compaction measurement results indicate up to 80% of the soils are at risk of poor aeration and impeded drainage which may potentially affect pasture production and predispose the soil to surface runoff, nutrient loss, erosion and flooding. Long-term trends for most trace elements are well within target ranges. However, Cadmium levels have raised concerns.

11. Many of the trends in declining soil quality can be offset by better land management practices, i.e. nutrient budgets/management plans and changing grazing practices during high soil moisture. Council should continue to educate land managers on strategies to protect the environment while achieving an economic return from the land.

RECOMMENDED

1. That the report be received.

2. That the Soil Quality Programme is reviewed.

10. Top of the South Conservation Alliance

(Clr Hope) (Report prepared by Alan Johnson) **E315-000-001**

Purpose

1. Council to consider being party to a conservation alliance (Kotahitanga mō te Taiao Alliance) with the Department of Conservation, Tasman, Buller and Nelson councils and Iwi (**attached** memorandum of understanding).

Background

2. The Department of Conservation has led an initiative seeking to provide a platform for the agencies to collaborate and align possible synergies to achieve significant landscape scale conservation outcomes.

3. The overarching purpose of the alliance is to provide a forum to enhance stakeholder coordination and provide a mechanism to realise shared opportunities to deliver on priority conservation projects. The alliance is envisaged to allow us to position ourselves for investment opportunities from outside sources, such as government Predator Free 2050 concept, and the private sector into large scale conservation programmes, for example predator control or wilding pine management programmes etc.

4. There are already some emerging national trends where large scale conservation or biodiversity projects are receiving significant private investment into pest management and restoration programmes which are set to transform the way we manage and protect our unique biodiversity values. For example, the NEXT foundation is an example of a philanthropic approach where private investment is injected in to a collaborative programme for biodiversity protection and restoration. An example of a collaborative approach is project Janszoon (22,530 hectares) in the Abel Tasman National Park, or Taranaki's Taranaki Mounga (34,000 hectares).

5. The conservation alliance, Kotahitanga mō te Taiao Alliance, is intended to be formalised through an agreement between stakeholders represented by the parties as outlined in Appendix 1 memorandum of understanding.

6. If the Council agree to being party to the alliance this would not involve any initial resourcing other than the parties collaborating and seeking agreement on a range of strategic opportunities that may be of value in the long-term. Any future initiatives resulting in any resourcing would need the approval of Council.

7. The Kotahitanga mō te Taiao Alliance is also not expected to restrict Council's own regional processes where we have localised biodiversity projects or initiatives, such as community group projects, the Significant Natural Areas Programme, or have any impact on any desire for Council to prepare a biodiversity strategy and set up our own forum. Essentially, it is envisaged that the alliance would ultimately provide an overarching framework to our regional approach.

Summary

8. The Council has an opportunity to be part of an alliance between the Department of Conservation, Tasman, Buller and Nelson councils and Iwi, with the purpose of providing a platform to coordinate priority and future conservation investment in the top of the south.

9. The Department of Conservation has asked if Council would sign up to the Kotahitanga mō te Taiao Alliance as outlined in the attached memorandum of understanding.

RECOMMENDED

1. That the information be received.

2. That Council consider being party to the Kotahitanga mō te Taiao Alliance.

Appendix 1

MEMORANDUM OF UNDERSTANDING

KOTAHITANGA MŌ TE TAIAO

THIS MEMORANDUM OF UNDERSTANDING IS MADE DAY OF

PARTIES
The Parties are:

1. **Ngāti Apa ki te Rā Tō Trust**
2. **Te Pātaka a Ngāti Kōata Trust**
3. **Te Rūnanga o Ngāti Kuia Trust**
4. **Te Rūnanga o Ngāti Rārua**
5. **Ngāti Tama ki Te Waipounamu Trust**
6. **Te Rūnanga O Toa Rangatira Inc**
7. **Te Atiawa o Te Waka-a-Māui Trust**
8. **Rangitāne o Wairau Settlement Trust**
9. **Te Rūnanga o Ngāti Waewae**
10. **Tasman District Council**
11. **Nelson City Council**
12. **Marlborough District Council**
13. **Buller District Council**
14. **Department of Conservation - Te Papa Atawhai**

And subsequently such other parties that as may be invited and agree to be bound by the provisions of this Memorandum of Understanding (MOU).

BACKGROUND

A. This Memorandum of Understanding (MOU) recognises that the Parties consider that there are considerable benefits of working collaboratively to achieve significant conservation gains across the Buller, Marlborough, Nelson and Tasman region.

B. The Parties propose to develop a formal relationship and Alliance that involves an agreement to collaborate, look for synergies and align conservation efforts across the Buller, Marlborough, Nelson and Tasman region.

C. This Memorandum of Understanding formalises and records the vision, scope and principles that the Parties expect to underpin their ongoing relationship with each other.

OPERATIVE PARTS
The Parties agree that the arrangements set out in **Schedule One** of this document are the basis on which they wish to base their relationship.

Signed by **Ngāti Apa ki te Rā Tō Trust** Chair	Signed by **Te Pātaka a Ngāti Kōata Trust** Chair
Signed by **Te Rūnanga o Ngāti Kuia Trust** Chair	Signed by **Te Rūnanga o Ngāti Rārua** Chair
Signed by **Ngāti Tama ki Te Waipounamu Trust** Chair	Signed by **Te Runanga O Toa Rangatira Inc** Chair
Signed by **Te Atiawa o Te Waka-a-Māui Trust** Chair	Signed by **Rangitāne o Wairau Settlement Trust** Chair

Signed by **Te Rūnanga o Ngāti Waewae** Chair	Signed by **Tasman District Council** Mayor
Signed by **Nelson City Council** Mayor	Signed by **Marlborough District Council** Mayor
Signed by **Buller District Council** Mayor	Signed by **Department of Conservation Te Papa Atawhai** Director Operations

SCHEDULE ONE

Background

1. The Kotahitanga mō te Taiao Alliance is a concept which aims to help coordinate the achievement of landscape scale collaborative conservation projects across the Buller, Marlborough, Nelson and Tasman region. The drivers are to work collaboratively to achieve significant conservation gains by attracting resources for new work, growing synergy to more effectively achieve existing work and developing social, cultural and economic contributors to future proof the outcomes.

2. For landscape scale conservation to be successful a strong alliance across local government, Iwi and the Department of Conservation (DOC) is needed. A strong Alliance would enable the establishment a region-wide conservation programme and the implementation of projects within it.

Vision

3. The Parties are united in the vision:

A partnership for environmental leadership across the Buller, Marlborough, Nelson and Tasman region – connecting people and place together for now and for the future.

Ma whero ma pango ka oti ai te mahi

With red and black the work will be complete, this refers to co-operation where if everyone does their part, the work will be complete. The colours refer to the traditional kowhaiwhai patterns on the inside of the meeting house.

Scope

4. The purpose and function of our Kotahitanga mō te Taiao Alliance is to align and collaborate on conservation projects across the Buller, Marlborough, Nelson and Tasman region to provide a collaborative voice for conservation.

5. This includes identifying, prioritising and integrating conservation work across the Buller, Marlborough, Nelson and Tasman region. The function of our Alliance will be to provide support, context and advice to projects within the region and help coordinate or support funding applications.

6. The scope of the Alliance is the coordination of collaborative landscape scale conservation projects.

7. The Parties are committed to ensuring that the Alliance delivers not only conservation outcomes but also supports social, cultural and economic outcomes to the region as well.

Nature of Relationship

8. The Parties wish to conduct their relationship ("the relationship") on the basis of good faith and respect for each other's views.

9. The Parties may refer to the relationship in their dealings with others as "working with our Kotahitanga mō te Taiao Alliance".

10. The **Addendum Terms of Reference** further outlines how the Alliance group will function.

Relationship Principles

11. The Parties to this MOU are committed to developing a meaningful and enduring relationship with the intention to work together to achieve mutually beneficial objectives and outcomes that enable the successful delivery of our Alliance. The Parties to this MOU agree to abide by the following relationship principles when the Parties engage with each other and others:

- Integrity
  Each Party will treat each other with the utmost respect, honesty and fairness.

- Dominion
  Each Party has dominion over their respective organisation.

- Consultation
  Each Party agrees to consult on matters relating to the Alliance programme and agrees to contribute to strategic and annual planning processes in an integrated manner.

- Availability
  Each Party agrees to make every effort to attend each meeting.

12. Nothing in this MOU or actions arising from it, shall detract from the rights or interests of the Parties under their individual Deeds of Settlement with the Crown.

Withdrawal

13. If a Party wishes to withdraw from the Alliance, it may do so by giving four weeks written notice to the other Parties.

Communication

14. Subject to reasonable notice, the Parties agree and will commit to meet quarterly to discuss issues of mutual interests, including business and work planning, new research and knowledge.

15. If matters arise that may be of interest to any Party, a contact person designated by each Party is to be informed. That person should develop an effective working relationship with the other Party.

16. If the designated contact person changes in any organisation, there should be a handover process so that the new person can quickly settle into the role.

17. In the interests of clear communication, any public statements that could be construed as being for or on behalf of our Alliance, must be made only after agreement with the other Parties. The Parties will agree to a communications protocol.

Intellectual Property and Data Sharing

18. All intellectual property brought to the relationship by each Party remains vested in that Party.

Confidentiality

19. Confidential information means proprietary science, technical and business information disclosed during the relationship.

20. No Party shall disclose directly or indirectly the confidential information received from other Parties to any third party without written consent.

Dispute Resolution

21. Any dispute concerning the subject matter of this document will be settled by full and frank discussion and negotiation between the Parties. Should the dispute not be resolved satisfactorily by these means, the Parties agree that they may engage in mediation conducted in accordance with the terms of LEADR New Zealand Inc Standard Mediation Agreement.

Review of MOU

22. The Parties shall review the Operative Parts in Schedule One of this MOU three years from the date of this MOU first being signed.

Addendum - Terms of Reference

Role of Parties of the Alliance Group

1. The Alliance Group Parties will identify and integrate conservation priorities across the Buller, Marlborough, Nelson and Tasman region consistent with the vision and scope of the MOU.
2. The Parties shall bring their strengths to the Alliance Group to help achieve the agreed vision and identified priorities.
3. Each Party on the Alliance Group will report back to the organisation that he/she represents with recommendations from the Alliance Group and seek that organisation's direction.
4. Each organisation may decide to take full or partial responsibility for specific actions recommended by the Alliance Group. There may also be situations where each organisation may decide not to take any responsibility for a specific action.
5. An organisation's formal support of specific actions will be communicated back to the Group by the organisation's representative. An organisation may choose to support specific actions in various ways, e.g. by allocating funding and/or including action items within planning documents and work programmes.

Role of the Facilitator of the Alliance Group

6. One member should be of appointed as Facilitator of the Alliance Group.
7. The facilitator will:
   - prepare the agenda for Alliance Group meetings with input from the Alliance Group Parties;
   - facilitate the meetings and assist the Alliance Group to reach consensus on issues and options;
   - act as the spokesperson for the Alliance Group; and
   - as necessary, support or present Alliance Group recommendations to the signatories.
8. The term for appointment as Facilitator shall be for a period of one year with an option for reconfirmation.
9. One member should be appointed as Vice Facilitator of the Alliance Group to provide support and coverage if the Facilitator is unavailable. This will be appointed and reviewed on an annual basis.
10. The Department of Conservation offers to provide the facilitator role for the Alliance Group, if required, for three years from the date that the MOU is first signed.

Quorum for meetings

11. While the Alliance Group does not have a decision-making mandate, there shall be no less than 8 members of the Alliance Group present for meetings to be held.

Reporting

12. Notes of Alliance Group meetings will be taken by a member of the Group or a support person (to be selected by Group consensus) and circulated before the next meeting of the Group.
13. The Department of Conservation offers to undertake the notes of the Alliance Group meetings and circulate these before the next meeting for three years from the date that the MOU is first signed.
14. Each Party will be responsible for reporting back to the organisation that he/she represents.

Frequency of meeting

15. The Parties shall meet as an Alliance Group quarterly, with additional meetings or workshops, if required.

Servicing of meetings

16. The Department of Conservation offers to provide documentation and logistical support for the Alliance Group meetings and provide staff support for three years from the date that the MOU is first signed.
17. All Parties shall be responsible for their own expenses for attendance and travel to and from meetings.

Review

18. The Parties will review these TOR three years from the date that it is first signed.

11. Delegations Under the Building Act 2004

(Clr Shenfield) (Report prepared by Bill East & Kaye McIlveney) **L150-003-02**

Purpose

1. The purpose of this report is to seek approval for delegation of responsibilities, powers and duties under the Building Act 2004 and associated Acts and regulations to the Chief Executive with approval for those responsibilities, powers and duties to be sub-delegated to staff.

Delegation of functions, responsibilities and powers

2. The Council last reviewed its Building delegations in October 2009. Since that time, there have been a number of amendments to the building legislation, including the repeal of the Fencing of Swimming Pools Act 1987.

3. The regulation of the fencing of swimming pools is now contained in the Building Act 2004 itself. Owners of swimming pools are required to meet standards in the Building Code to ensure the safety of swimming pools by fencing or other covering. Those wanting to use alternate solutions must gain an exemption or exception from the Code.

4. The delegations in 2009 reserved decisions on certain matters to the Environment Committee or to the Chair of the Environment Committee. These matters are—

   a) Authorising enforcement officers;

   b) Adopting significant policies on dangerous, unsanitary and earthquake-prone buildings;

   c) Granting building consent subject to a waiver or modification of the building code; and

   d) Granting a certificate of acceptance (on the recommendation of the Building Control Group Leader).

5. Most of these matters are operational or specialist in nature, and it is considered appropriate that they be delegated to the Chief Executive and sub-delegated by the Chief Executive to appropriate building control staff. The exception is the adoption of the policies. That should remain a decision of Council, by resolution.

Summary

6. In the absence of a delegation, decisions on these matters would be required to be made by full Council resolution. It is considered appropriate that these operational or specialist matters be delegated to the Chief Executive and from the Chief Executive to staff to exercise on behalf of Council.

RECOMMENDED

1. That Council delegate its powers, duties and responsibilities under the Building Act 2004, the Building (Accreditation of Building Consent Authorities) Regulations, 2006, the Amusement Devices Regulations 1978, and the Plumbers, Gasfitters, and Drainlayers Act 2006 to the Chief Executive, except the power to adopt policies on dangerous, earthquake-prone and unsanitary buildings; and

2. That Council give approval to the Chief Executive to sub-delegate those powers, duties and responsibilities to appropriate staff.

12. Amendments to Marlborough District Council Charging Policy - Resource Management Act 1991

(Clr Brooks) (Report prepared by Anna Eatherley) **R450-002-R04**

Purpose

1. The purpose of this report is to consider amendments to the Marlborough District Council Charging Policy - Resource Management Act 1991.

Background

2. The Marlborough District Council Charging Policy - Resource Management Act 1991 describes the charges Council imposes for a range of resource management services, including processing resource consents, plan changes and requirements to designate land.

3. The charges are implemented under the Resource Management Act 1991 and follow the procedures of the Local Government Act 2002.

4. The policy reflects the Resource Management Act 1991 philosophy that the beneficiary pays. Those that benefit from the use of natural and physical resources are expected to pay the full cost of that use. Council's role is to manage these community resources. Granting of resource consent allows individuals to access these resources for their own private use and economic benefit. Council facilitates this access while ensuring that the use is sustainable.

5. The charges imposed on applicants and consent holders are for Council's reasonable processing costs. The policy provides Council with the guiding principles for setting its resource management charges. The charges must be lawful, reasonable, fair, recognise the effects of location, be simple to understand, transparent, predictable and certain.

6. The first version of the Charging Policy was drafted in 2002. It has been updated nine times since the original document to reflect changes in legislation and practice. The current review reflects amendments to the Resource Management Act 1991 and the deletion of the Compliance Group's policy on charging for the administration, monitoring and supervision of resource consents.

Summary

7. The amended Charging Policy reflects changes to section 36 and the statutory timeframes in the Resource Management Act 1991. It also acknowledges the deletion of the Compliance Group's charging regime due to the newly ratified Council Charging Policy for resource management monitoring charges for the region.

RECOMMENDED

1. That the information be received.

2. That the amended Marlborough District Council Charging Policy - Resource Management Act 1991 be received.

13. Environmental Health Activity Summary for 2016/17 and Review of Survey Results

(Clr Taylor) (Report prepared Karen Winter) **E350-004-009-02**

Purpose

1. The purpose of this report is to provide the Environment Committee with a brief overview of the activities undertaken by the Environmental Health Team for the 2016/17 registration year and detail the results of our customer surveys.

2.	**Karen Winter will provide a short presentation (10 min) on the activities carried out by the Environmental Health Team over the past financial year and illustrate customer survey results.**

Background

3. Environmental Health Group activities include:

- Ensuring all required premises are registered under the Health Act 1956.
- Undertake inspections of all food premises under the Food Hygiene Regulations 1974.
- Register and verify businesses under the Food Act 2014.
- Issue Charity Food Stall Permits and inspect various events and markets.
- Undertake inspections of all other premises registered under the Health Act 1956.
- Investigating complaints under the Health Act 1956 and the Marlborough District Council Bylaws.
- Investigating complaints of excessive and unreasonable noise pursuant to the Resource Management Act 1991 and Health Act 1956.
- Monitoring and enforcement of the provisions of the Sale and Supply of Alcohol Act 2012.
- Assessing/granting Class Four Gaming Machine consent applications.

4. The above list is quantified and reported as performance measures under the Annual and Long Term Plans.

Comments

Food Premises Inspections under the Food Hygiene Regulations

5. Table of Food Premises Inspections carried out under the Food Hygiene Regulations 1974 for food businesses registered under the Health (Registration of Premises Regulations) 1966:

Number of Food Premises (Registered under the Health Act) for the 2016/17 Registration Year	Number of Food Premises (Registered under the Health Act) Inspected During the 2016/17 Registration Year	Number of Food Premises Requiring Re-inspection During the 2016/17 Registration Year
137	137	1

6. The Annual Plan 2016/17 performance target is that 100% of registered food premises are inspected at least once per annum. This performance target has been achieved for the 2016/17 year.

7. Inspections of food premises are undertaken by Environmental Health Officers to determine if premises comply with prescribed physical and conduct standards in compliance with various statutes and regulations. In addition to looking at the physical components of the premises, the Officer usually sees a food premises in action, so will also inspect operational requirements. Such things include perishable food being stored at the correct temperatures, food preparation areas being suitably cleaned, correct food handling techniques and procedures in place that minimise any food contamination.

8. These premises are given either a Pass, Qualified Pass or Fail inspection result. The definitions of these results are:

   PASS: Where the Environmental Health Officer is satisfied that the operator is substantially complying with requirements.

   QUALIFIED PASS: Where the Environmental Health Officer is satisfied that the operator is substantially complying with requirements, however some practices and/or requisitions have been identified which require attention.

   FAIL: Where the Environmental Health Officer has determined that the operator is not in substantial compliance with regulatory requirements. Identified practices and/or requisitions are a food safety concern and require immediate attention.

9. Premises that receive a Fail result are re-inspected to ensure compliance and may be placed on a monthly or quarterly inspection regime to ensure ongoing compliance.

Inspections of Registrations under the Food Act 2014

10. The first year of transition of our food premises to the Food Act 2014 is now complete with all businesses transitioned that were required to do so.

11. A verification is carried out for operators and premises registered under the Food Act 2014. This requires verifiers (Environmental Health Officers) to check that the operator has completed their Food Control Plan and the associated recording requirements. It also involves a check of the premises to ensure the business is operating in accordance with their documented Plan.

12. Council's Environmental Health Officers conducted 116 verifications of businesses registered under the Food Act 2014 in the 2016/17 registration year.

13. During verifications, each requirement of the Plan is assessed and given a result of conforming, non-conforming or non-compliant.

14. Corrective Action Requests (CARs) are provided for any improvement required. Timeframes are given for the improvements to be completed.

15. Overall outcomes for a verification are either acceptable or non-acceptable. These outcomes result in changes for the operator's verification schedule. A business that has received two consecutive acceptable verification outcomes is verified less often however an un-acceptable verification outcome results in more frequent verification.

Inspections of Other Premises

16. Environmental Health Officers also carry out an annual inspection of all Hairdressers, Funeral Directors, Offensive Trade operators and Camping Grounds which are required to be registered under the Health Act 1956.

Number of Hairdressers Registered and Inspected During the 2016/17 Registration Year	Number of Funeral Directors Registered and Inspected During the 2016/17 Registration Year	Number of Offensive Trades Registered and Inspected During the 2016/17 Registration Year	Number of Camping Grounds Registered and Inspected During the 2016/17 Registration Year
51	2	11	24

17. The Annual Plan 2016/17 performance target is that 100% of other registered premises are inspected at least once per annum. This performance target has been achieved for the 2016/17 year.

Food Stall Permits and Market Inspections

Number of Non-Charity Food Stall Permits Issued during the 2016/17 Registration Year	Number of Markets or Events Inspected During the 2016/17 Registration Year
140	14

18. Under the Food Act 2014, persons selling food to fundraise can do so up to 20 times a year. We issue Charity Food Stall Permits for this so groups can self-regulate how many times they operate in a calendar year.

19. The Annual Plan 2016/2017 performance target is for 12 or more market and events to be inspected annually. This performance target has been achieved for the 2016/17 year.

Complaints

20. The Environmental Health Team investigates complaints regarding food and food premises, along with nuisances under the Marlborough District Council Bylaws, Unreasonable Noise, Sale of Alcohol concerns and unsanitary housing.

21. Complaints received from 1 July 2016 to 30 June 2017:

Food hygiene or concern regarding premises operation	10
Sale of alcohol issues	10
Hairdressers conduct and registration issues	2
Camping ground non registration and hygiene concern	5
Nuisance under the Bylaw or contravention of Bylaw	27
Domestic smoke	35
Excessive noise	1139
Unreasonable noise	22
Unsanitary living	15
Swimming Pool sanitation	1

Alcohol

22. In 2016/2017 Environmental Health Officers carried out 105 compliance checks of the 117 on-licensed premises selling alcohol. This includes checking a duty manager is on site, availability of free water, no-alcohol and low-alcohol drinks, food availability, transport options and signage.

23. The Licensing Inspectors, in the 2016/2017 registration year have a performance measure of checking compliance for 90% of on-licensed premises with the Sale and Supply of Alcohol Act 2012. This target has been met in the 2016/2017 year.

24. Licensing Inspectors in conjunction with the Blenheim Policing Team carried out 4 Controlled Purchase Operations (CPO) in the period of 1 July 2016 to 30 June 2017. These operations use volunteers to test licensed operators on whether they will sell to persons under the legal purchase age. Two premises sold to a minor during one CPO in July 2016, subsequently the licensee and manager on duty have been brought before the Alcohol Regulatory and Licensing Authority (ARLA). One further Licensee failed a CPO in May 2017; this case is currently before ARLA.

Survey Results

25. A trial survey was undertaken during the 2015/17 period with the 2016/17 registration year being the first full year surveyed.

26. Surveys are sent to our registered operators following the registration renewal process and after inspection or verification of the operator/premises.

27. Within the survey, questions are asked around the process, how easy the documents were to follow, and the performance of the Environmental Health Team.

28. The survey information is used to help improve our systems and communication with our customers.

29. Survey responses are given on a scale of 1-10 with 10 being the option for most satisfied. The complete surveys and results are included in the Information Package.

30. 67 responses were received on our registration process survey and the overall mean result for satisfaction with the Environmental Health Team was 9.24 out of 10. The survey indicated that the registration forms were clear and able to be easily understood.

31. 22 responses were received on the Food Act verification survey with the overall mean result for satisfaction with the Environmental Health Team as 9.14 out of 10.

32. We received 51 responses to our Health Act inspection survey and the overall mean result for satisfaction with the Environmental Health Team was 9.1 out of 10.

Summary

33. The Environmental Health Team continues to work towards ensuring the residents of Marlborough and visitors to the district have confidence that they live and stay in an environment that is safe.

34. Quality of inspections and audits is managed through consistency by the inspectors and on-going professional development.

35. The Environmental Health Team has achieved their performance targets for the 2016/2017 year.

36. Survey results reflect a customer focus of the Environmental Health team, the ease of processes uses and the positive relationships build with business representatives.

RECOMMENDED

That the information be received.

14. Dairy shed Effluent and Stream Crossing Survey 2016/2017

(also refer to separate attachment)

(Clr Hook) (Report prepared by Rachel Neal) **E330-001-004, E330-001-005#01**

Purpose

1. The purpose of this item is to inform the Council of the Compliance Group's monitoring of dairy shed effluent and stream crossings during the 2016/17 dairy season (**summary report separately attached).**

2.	**Rachel Neal will provide a 10 minute presentation.**

Background

3. The dairy shed effluent and stream crossing survey is an annual audit which Council staff undertake on all of Marlborough's dairy farms. At the time of the 2016/17 survey, there were 54 operating dairy farms.

4. The purpose of the survey is to ensure compliance with the Marlborough Sounds Resource Management Plan (MSRMP) rules for dairy effluent or resource consents; promote good dairy effluent management and to provide information to dairy farmers on effluent systems and best management practices.

5. This season a second compliance report was completed for each farm which assessed the compliance against the Proposed Marlborough Environment Plan (PMEP) rules for dairy shed effluent.

6. Stream crossings are also checked during the dairy shed effluent survey. All areas where dairy cattle walk through waterways must be eliminated. Those properties with remaining stream crossings are checked for progress toward elimination.

Comments

Dairy Shed Effluent in Marlborough

7. A traffic light system is used to indicate compliance with permitted activity rules of the MSRMP or the respective resource consent conditions for each farm. A national criteria for assessing dairy effluent compliance has been created and Marlborough District Council work with this criteria.

8. Dairy effluent inspections were undertaken using the 'cold calling' method for the 2016/17 survey as recommended by the national auditing guidelines, this is consistent with the 2015/16 survey.

Proposed Marlborough Environment Plan

9. On 9 June 2016, Marlborough District Council notified the PMEP. Within the PMEP the discharge of dairy farm effluent into or onto land is a permitted activity within the Rural Environment Zone and the Coastal Environment Zone. The discharge of dairy effluent is required to meet the permitted activity standards specific to the zone that the farm is located within.

10. This season a compliance report for the PMEP plan rules for dairy shed effluent was completed for each farm. The rules which do not have immediate legal effect did not affect the farm compliance status. The PMEP compliance report was completed in order to provide the farmers with an indication of future compliance for the effluent system as it currently operates.

Washdown Collection, Containment and Application Systems

11. Dairy farms in Marlborough have many different forms of solid separators, sumps and storage facilities for dairy shed effluent. These components are all inspected during the survey.

MSRMP

12. Non-compliance with permitted activity rules or consent conditions in the 2016/17 survey was due to compromised storage facilities or ponding occurring. Significant non-compliance in 2016/17 was due to ponding, the application of effluent within 20m of a waterway or the effluent system being located within 20m of a waterway without resource consent.

13. Council carried out follow up visits or correspondence with the non-compliant rated dairy farms and is continuing to actively engage with those farms who are currently rated as significant non-compliant.

PEMP

14. Eight of the PMEP permitted activity standards came into immediate legal effect upon the notification of the plan on 9 June 2016.

15. Non-compliance was a result of discharge occurring within a soil sensitive area, discharge occurring within 20m of a waterway and discharge occurring when the soil moisture exceeded field capacity.

16. A further five permitted activity standards within the PMEP will have legal effect on 9 June 2019.

Stream Crossings

17. It was expected that all stream crossings would have been eliminated by the end of December 2013 to coincide with Fonterra's condition of supply which required fencing and stream crossing elimination by that date.

18. Council's stream crossing survey shows that of the 229 stream crossings originally surveyed between 2002 and 2007, there are still 21 crossings remaining in 2016/17.

Summary

19. Council inspected 54 dairy farms in 2016/17. The percentage of farms that were rated as full compliance with the MSRMP or resource consent conditions was 85%, this increased to 91% following re-inspections.

20. The initial compliance rate was higher than 2015/16, however the rates of compliance following remediation and re-inspection is consistent with the 2015/16 survey.

21. There was a decrease in significant non-compliance compared with the 2015/16 survey. Council is actively working with the farms which continue to be non-compliant.

22. The percentage of farms that were rated as full compliance with the PMEP was 91%, this increased to 95% following re-inspections. Please note that a further five permitted activity standards within the PMEP will have legal effect on 9 June 2019.

23. Stream crossing elimination is continuing to progress albeit slowly. There are a small number of farms with the majority of stream crossings remaining, for example one farm has 10 of the remaining 21 stream crossings.

RECOMMENDED

That the "Dairy Shed Effluent and Stream Crossing Survey 2016/17" report be received.

15. Aids to Navigation

(Clr Oddie) (Report prepared by the Harbour Master) **H100-005-14**

Purpose

1. The purpose of this report is to update the Committee of the on-going management of Aids to Navigation (AtoNs).

Background

2. The Council is responsible for the provision and servicing of 98 AtoN in the region which include beacons, buoys, channel markers and leading lights. The collective replacement cost of these units is estimated at $1.5 million as of July 2017.

3. These AtoN are a critical component of the Harbour Safety Management System and their operation must comply with international standards as set by the International Light House Authority (IALA). Requirements include minimum response times to rectify light failures, prescribed inspection routines and the establishment of an accurate performance data recording programme.

4. The management of AtoNs was brought 'in house' and carried out internally by the Harbour Master's Team.

AtoNs Update: June 2017

5. A number of light failures occurred in the lead up to winter most notably the East Head sector light. The cause of the failure was identified and resolved.

6. Channel Pole number #17 in the Havelock channel was destroyed after being struck by a vessel. Fortunately the lighting assets were salvaged successfully. A replacement pole has since been installed.

7. Light failures also occurred at Allports Island, Motukina Point, Scraggy Point, Shag Point and Waitohi Wharf and Waikawa Breakwater.

8. A temporary buoy remains on Keep Clear Rock (unlit) following destruction of the previous navigation aid from boat strike. A permanent replacement buoy has now been constructed but remains to be installed. This depends on contractor availability.

9. A new buoy has been installed in Whataroa Bay Port Underwood following the failure of the original.

10. A green light will be installed on Scott Point in Queen Charlotte Sound to clear up confusion over the lighting scheme presently in place. In addition a lit buoy is proposed for north of long Island.

11. A recent round of testing navigation aids was completed in early July.

Conclusion

12. IALA standards for all lit navigation aids have been achieved for the past six weeks but there was a number of failures leading up to winter.

    Note: IALA specifies 3 categories for AtoN. 'Category 1' AtoNs are defined as being '*of primary navigational significance*' and have the highest availability requirement. Tory Channel Leading lights are the only Category 1 AtoN under the Council control. Over 90% of AtoNs under the Council control are listed Category 2 being defined by IALA as '*of navigational significance'*.

RECOMMENDED

That the information be received.

16. Marine Farm Light Audits

(Clr Oddie) (Report prepared by the Harbour Master) **H100-004-003-17**

Purpose

1. The purpose of this report is to update the Committee of the ongoing marine farm light audits that are being carried out.

Background

2. Conditions of consent attached to individual marine farm consents dictate the lighting requirement for each farm.

3. The Harbour Master audits every marine farm in the waters of the Marlborough Harbour at least once every three years. This requires a site visit of at least 200 marine farms annually.

4. The establishment of a marine farm lighting audit systems has resulted in improved compliance all areas of the Sounds.

5. Work is being undertaken to ensure that the cumulative lighting requirements of multiple farms in a Bay do not exceed navigational safety requirements. Crail Bay provides the first example of a bay wide lighting solution. The Harbour Master will continue working closely with the Marine Farming Association on this to look at options for improving the marine farm lighting for the purpose of navigation safety.

Discussion

6. In relation to point 4 above, there may also be justification for a similar approach to the requirements in relation to orange buoys. As with lighting, a farm by farm approach does not necessarily allow for proper consideration of the boarder environmental context within which the farm sits.

7. Audits of Marine Farms 2016/2017 financial year -

   - 204 farms audited mostly in the central Pelorus area - Clova, Crail, Ta Whitinui, Hallem, Kauauroa, Beatrix Bay plus Croisilles Harbour, Waikawa and Okuri Bay
   - General state of farms has been slowly improving over the past few years. However, we feel this year that this continued improvement has plateaued off a little.

RECOMMENDED

That the information be received.

17. Information Package

RECOMMENDED
That the Regulatory Department Information Package dated 20 July 2017 be received and noted.