

Policy and Planning Committee

Tuesday 30 April 2019
10.30am

Taranaki Regional Council, Stratford



Agenda for the meeting of the Policy and Planning Committee to be held in the Taranaki Regional Council chambers, 47 Cloten Road, Stratford, on Tuesday 30 April 2019 commencing at 10.30am.

Members	Councillor N W Walker Councillor C L Littlewood Councillor D H McIntyre Councillor B K Raine Councillor C S Williamson Councillor D L Lean Councillor D N MacLeod	(Committee Chairperson) (ex officio) (ex officio)
Representative Members	Ms E Bailey Councillor G Boyde Mr J Hooker Councillor R Jordan Mr P Muir Councillor P Nixon Mr M Ritai	(Iwi Representative) (Stratford District Council) (Iwi Representative) (New Plymouth District Council) (Taranaki Federated Farmers) (South Taranaki District Council) (Iwi Representative)
Apologies	Councillor M P Joyce	

Notification of Late Items

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Closing Karakia and Karakia for kai

Agenda Memorandum

Date 30 April 2019

**Memorandum to
Chairperson and Members
Policy and Planning Committee**



Subject: Confirmation of Minutes – 19 March 2019

Approved by: A D McLay, Director-Resource Management

B G Chamberlain, Chief Executive

Document: 2242064

Resolve

That the Policy and Planning Committee of the Taranaki Regional Council:

1. takes as read and confirms the minutes of the Policy and Planning Committee meeting of the Taranaki Regional Council held in the Taranaki Regional Council chambers, 47 Cloten Road, Stratford, on Tuesday 19 March 2019 at 10.35am
2. notes the recommendations therein were adopted by the Taranaki Regional Council on 9 April 2019.

Matters arising

Appendices

Document #2224426 – Minutes Policy and Planning Committee

Minutes of the Policy and Planning Committee Meeting of the Taranaki Regional Council, held in the Taranaki Regional Council Chambers, 47 Cloten Road, Stratford, on Tuesday 19 March 2019 at 10.35am.



Members	Councillors	N W Walker	(Committee Chairperson)	
		M P Joyce		
		C L Littlewood		
		D H McIntyre		
		B K Raine		
		C S Williamson		
		D N MacLeod	(ex officio)	
		D L Lean	(ex officio)	
Representative Members	Councillors	G Boyde	(Stratford District Council)	
		P Nixon	(South Taranaki District Council)	
		R Jordan	(New Plymouth District Council)	
	Messrs	J Hooker	(Iwi Representative)	
		M Ritai	(Iwi Representative)	
Ms	E Bailey	(Iwi Representative)		
Attending	Messrs	B G Chamberlain	(Chief Executive)	
		A D McLay	(Director-Resource Management)	
		G K Bedford	(Director-Environment Quality)	
		M J Nield	(Director-Corporate Services)	
		C L Spurdle	(Planning Manager)	
		R Phipps	(Science Manager)	
		S Tamarapa	(Iwi Communications Officer)	
		G Severinsen	(Manager Policy and Strategy)	
		R Ritchie	(Communications Manager)	
		P Ledingham	(Communications Adviser)	
		S Ellis	(Environment Services Manager)	
		Ms	M Lachmann	(Communications Adviser)
		Ms	J Mack	(Committee Administrator)
		Mrs	V McKay	(Science Manager)
	Mrs	H Gerrard	(Science Manager)	
Mr	J Clough	(Wrightson Consulting)		
	One Member of the media			
Apologies	There were no apologies			
	1 minute silence was observed to remember the recent Christchurch incident.			

**Notification of
Late Items**

There were no late items of business.

1. Confirmation of Minutes - 5 February 2019

Resolved

THAT the Policy and Planning Committee of the Taranaki Regional Council

1. takes as read and confirms the minutes and confidential minutes of the Policy and Planning Committee meeting of the Taranaki Regional Council held in the Taranaki Regional Council chambers, 47 Cloten Road, Stratford, on Tuesday 5 February 2019 at 10.35am
2. notes that the recommendations therein were adopted by the Taranaki Regional Council on 26 February 2019.

Raine/Hooker

Matters Arising

There were no matters arising.

2. Update on Taranaki Taku Tūranga - Our Place: Towards a Predator Free Taranaki

- 2.1 Mr S R Hall, Director - Operations, spoke to the memorandum presenting an update on the progress of the *Taranaki Taku Turanga - Our Place: Towards a Predator-Free Taranaki* project. Mr S Ellis, Environment Services Manager, presented a powerpoint presentation and gave a handout of the omitted attachment in the agenda.

Recommended

That the Taranaki Regional Council:

1. receives this memorandum *Update on Taranaki Taku Tūranga - Our Place: Towards Predator Free Taranaki*; and
2. notes the progress and milestones achieved in respect of the urban and rural predator control and the zero density possum projects of the *Towards Predator-Free Taranaki* project.

Williamson/Boyde

3. Report of the Tax Working Group and findings on environmental taxes

- 3.1 Mr G Severinsen, Manager Policy and Strategy, spoke to the memorandum introducing the Tax Working Group report entitled '*Future of Tax*', and to highlight in particular, the findings and recommendations from the report on environmental taxes.

Recommended

That the Taranaki Regional Council:

1. receives the memorandum 'Report of the Tax Working Group and findings on environmental taxes'.

Williamson/MacLeod

4. Kaupapa Māori Freshwater Assessments report and Wai Māori working group

- 4.1 Mr S Tamarapa, Iwi Communications Officer, spoke to the memorandum to present for Members' information a national Mātauranga Maori stocktake entitled *Kaupapa Māori Freshwater Assessments – A Summary of Iwi and Hapū-based Tools, Frameworks and Methods for Assessing Freshwater Environments* and an update on the establishment of a Wai Māori working group of iwi and hapū representatives to inform the review of the Regional Freshwater and Soil Plan reviews.

Recommended

That the Taranaki Regional Council:

1. receives this memorandum *Kaupapa Māori Freshwater Assessments report and Wai Māori working group*;
2. notes Council is seeking to establish a Wai Māori working group; and
3. notes Council officers will also be able to engage with individual iwi and hapū throughout the Plan review and the development of mātauranga Māori monitoring methods.

Joyce/Bailey

5. National Environmental Standards for Plantation Forestry in Taranaki – implementation update and slash management

- 5.1 Mr A D McLay, Director-Resource Management, spoke to the memorandum advising the Committee of the monitoring and enforcement activities undertaken to date for the National Environmental Standards for Plantation Forestry (NES-PF) and the requirements for slash management under the NES-PF. Interest had been shown at the previous meeting around slash management and monitoring and enforcement undertaken to date to avoid the problems experienced in Gisborne.

Recommended

That the Taranaki Regional Council:

1. receives this memorandum;
2. notes the Council has a professional relationship in place with the forestry sector;
3. notes compliance with the NES-PF has been high; and

4. notes the Council is participating in a review of the NES-PF.

Williamson/Joyce

Closing Karakia Mr M Ritai (Iwi Representative) gave the closing Karakia to the Policy and Planning Committee and Karakia for kai (lunch).

There being no further business, the Committee Chairperson Councillor N W Walker, declared the meeting of the Policy and Planning Committee meeting closed at 11.55am.

Confirmed

Chairperson _____

N W Walker

Date

30 April 2019

Agenda Memorandum

Date 30 April 2019



**Memorandum to
Chairperson and Members
Policy and Planning Committee**

Subject: Update on the Coastal Plan review

Approved by: A D McLay, Director – Resource Management

BG Chamberlain, Chief Executive

Document: 2231424

Purpose

The purpose of this memorandum is to present Members with an update on the Coastal Plan review process and explain upcoming actions required under the Schedule 1 process of the *Resource Management Act 1991*.

Executive summary

- Pursuant to the *Resource Management Act 1991* (RMA), the Taranaki Regional Council (the Council) has commenced the formal review process involving the release of the Proposed Plan.
- The Proposed Plan was the culmination of a comprehensive pre-plan notification engagement process, including the earlier release of a Draft Plan. The pre-plan consultation resulted in many changes to the Proposed Plan, including those made because of tangata whenua consultation.
- The Proposed Plan was publicly notified for submissions on 24 February 2018. The deadline for submissions was 27 April 2018.
- Sixty-one submissions on the Proposed Plan were received and summarised in the Summary of decisions requested document, which was publicly notified on 21 July 2018 along with public notice calling for further submissions in support or opposition to the initial submissions. Twenty-five further submissions were subsequently received.
- The main issues/themes raised in submissions are: integrated management; coastal management areas and the coastal environment boundary; use and development; recognition of regionally important infrastructure; the identification of tangata whenua principles, values and sites of significance; the protection of surf breaks; and the protection of indigenous species; and rules permitting, controlling and prohibiting activities in the coastal management area.
- In October 2018 the draft versions of the track changes version of the Proposed Coastal Plan for Taranaki and the Officers report on decisions were made available to submitters. These documents were released without prejudice and gave submitters an indication of officers' preliminary recommendations in response to their submissions.

These documents informed further engagement with submitters, which assisted Council officers in addressing ongoing concerns and considering alternative relief options.

- Officer recommendations to the Proposed Plan have undergone a legal audit to review the readability and legal correctness of changes to Plan provisions.
- To aid in the effective and efficient hearing process, it is recommended that Council prepare a Section 42A report indicating whether a submission point is recommended to be declined, accepted, accepted in part or no relief required.
- The Section 42A report and a revised track changes version of the Proposed Coastal Plan for Taranaki would be presented at the next Policy and Planning Committee meeting for Members' consideration prior to their official public release.
- A hearing is required where any submitters have indicated they wish to be heard at a formal hearing of submissions and have not since withdrawn their wish. If required, a hearing of submissions is likely to take place in mid-July with the recommendation that an independent hearing commissioner be appointed to support Councillor hearing commissioners.

Recommendations

That the Taranaki Regional Council:

1. receives this memorandum entitled *Update on the Coastal Plan review*;
2. requests that officers prepare a report on the Proposed Plan, including submissions, under Section 42A of the RMA;
3. approves a hearing; and
4. approves the use of an independent hearing commissioner in the hearing.

Background

Pursuant to the *Resource Management Act 1991* (RMA) the Taranaki Regional Council (the Council) is responsible for promoting the sustainable management of the coastal marine area of the Taranaki region and is required to review the existing regional Coastal Plan. The coastal marine area refers to the 'wet bit' of the coast. Its landward boundary is the mean high water mark and it extends seaward to 12 nautical miles (22 km). Beyond this is the Exclusive Economic Zone, which is managed by the Environmental Protection Authority (EPA), based in Wellington.

The current Coastal Plan for Taranaki was made operative on 1 October 1997 and was the first Plan prepared under the RMA.

As Member are aware, the Council has commenced its formal review process involving the release of a *Proposed Coastal Plan for Taranaki* (the Proposed Plan) for public submissions. As part of the review, Council released a draft version of the Plan, which then informed the development of the Proposed Coastal Plan that was publicly notified for submissions on 24 February 2018. The deadline for submissions was 27 April 2018.

Sixty-one submissions on the Proposed Plan were received and summarised in the *Summary of decisions requested* document, which was publicly notified on 21 July 2018. The public

notice of the 'summary of submissions' also called for further submissions in support or opposition to the initial submissions.

Many submissions indicate support for the overall content and management approach contained within the Proposed Plan with many submissions requesting that certain provisions be retained. However, there have also been many requests for change, some of which are to clarify the meaning of current provisions or to add further context and others, which seek deletions from or additions to specific provisions of the Proposed Plan. The key issues raised in the submissions were:

- Integrated management: a number of submitters commented on integrated management across the coastal environment, including potential linkages with other legislation, other policy directions, including the *New Zealand Coastal Policy Statement*, and other organisations.
- Coastal management areas: some submitters sought amendment to or the addition of new coastal management areas and/or for the Council to map the extent of the coastal environment boundary landward of the coastal marine area.
- Use and development: many submitters commented on use and development, including the 'appropriateness' or otherwise of certain use and development activities, including network utilities, oil and gas exploration and production, and seabed mining.
- Regionally important infrastructure: there was significant support for recognising certain activities as being nationally and regionally significant to the social, economic and cultural well-being of people and community in the region.
- Tangata whenua principles, values and sites of significance: a number of submitters provided specific comments relating to the recognition and provision of tangata whenua principles in Plan provisions, the identification and protection of sites of significance, methods of implementation, and the application of mātauranga Māori.
- Surf breaks: there was strong support but also some opposition for Plan provisions addressing the protection of surf breaks in the region, including the designated Significant Surfing Area.
- Indigenous biodiversity: there was significant support for Plan provisions addressing the protection and enhancement of indigenous biodiversity. However, a number of submitters sought amendments seeking higher levels of protection and or the mapping of significant indigenous biodiversity.
- Rules: Mixed views relating to the level of control for rules allowing, controlling or prohibiting specific activities in the coastal marine area.

A total of 25 further submissions were received in support or opposition to the initial submissions by the closing date of 4 August.

Subsequent to the receipt of further submissions, Council officers have undertaken an additional non-statutory exercise (pre-hearing process) to further engage with submitters on issues raised in their submissions.

An invitation was extended to all submitters to meet and discuss issues and potential solutions. There was considerable submitter interest in participating in this exercise. Council officers met or engaged with 28 submitters in meetings, via videoconference, phone or email. These meetings outlined areas of concern for submitters and allowed submitters and officers to clarify their position or intent, discuss various options and reach agreement where

possible. To assist this exercise, the Council released a draft Pre-hearing track changes version of the Proposed Coastal Plan for Taranaki that incorporates the changes recommended by officers as a result of submissions and further submissions. This was accompanied by a draft report on officer recommendations on submissions received. Both of these documents were presented to the Policy and Planning committee meeting on October 9 2018 prior to it being released to all submitters via the Council website.

Pre-hearing engagement outcomes

The Council undertook pre-hearing engagement with 28 submitters including tangata whenua, network utility operators and providers, oil and gas companies, agriculture organisations, public service departments and environmental protection groups.

This non-statutory step was very successful and allowed Council officers to further engage with submitters to clarify their concerns, discuss proposed relief and explore any alternative relief options where appropriate. In many instances, submitters expressed support for changes recommended. In some instances, submitters sought clarification on the intent or operational details of provisions and occasionally suggested alternative relief. Some submitters presented additional evidence or research to support their submission.

The process has indicated a few key areas where officers recommend further changes to the Proposed Plan, these being:

- The balance of protective policies against the use and development policies: the *New Zealand Coastal Policy Statement* (NZCPS) is particularly directive towards protection of the coastal environment and some submitters were concerned with how the needs of regionally important infrastructure would be balanced against the need to protect specific values. Council officers considered recent case law from Otago on the issue and recommend minor changes, including a new policy, to better align with the *National Policy Statement on Electricity Transmission* (which provides direction specific to managing the effects of the National Grid).
- Rules for structure maintenance, alteration and extensions: general feedback from some submitters on the maintenance, alteration and extension rules was that the framework was complicated and, in some instances/scenarios, submitters were not sure which rule might apply to specific activities with the potential for more than one rule to apply to a single activity. Submitters were also concerned about the relevant definitions of these activities. Officers undertook additional engagement with submitters on these issues to further canvas and road test changes to the structure maintenance/alteration/extension rules.
- Sewage discharge rules: a number of iwi submitters were strongly opposed to allowing any new discharges of treated human sewage to the open coast (even as a consented activity). Council officers recommend addressing these concerns by prohibiting any new discharges of treated human sewage to the CMA but would continue to provide for existing wastewater discharges (subject to a consenting process). Council officers have undertaken further engagement with the district councils to explore the implications of this approach. Any new discharges would have to be discharged to land.
- Seismic surveying rule: the Proposed Plan included a permitted activity rule for seismic testing. A submitter identified that there are possible adverse effects towards the little blue penguin that annually migrates to the South Taranaki bight for feeding. Recent scientific research has investigated the effect of seismic testing on penguins to be

potentially significant. Effects on birds are not considered under the Department of Conservation's *Code of conduct for minimising acoustic disturbance to marine mammals for seismic survey operations*, which only investigates effects to marine mammals. Council officers have explored and discussed with submitters a consented (controlled activity) pathway for seismic testing to ensure that there is a process to gather information and consider any effects on biodiversity values, including those on the little blue penguin, prior to the activity commencing. Strong and widespread support has been indicated for this change.

- Other changes to Plan provisions have been made to improve the readability and clarify policy intent and alignment.

Following pre-hearing engagement, Council officers have revised the previous versions of the Proposed Plan to take into account the pre-hearing engagement. A full legal audit of the changes made to the revised Proposed Plan in response to submitters has also been made to ensure that the Plan remains legally robust and user friendly.

Next Steps

During the pre-hearing engagement process, some submitters indicated that they would not require to be heard at a formal hearing of submissions. Council officers are hopeful that additional submitters may withdraw their intention to be heard following the release of the revised track-changed version of the Proposed Plan.

Nevertheless, due to the number of submitters indicating an intention to be heard, Council officers anticipate that a hearing will be required.

Under section 42A of the RMA, the Council may direct officers to prepare a report on information provided to be considered at a hearing. It is recommended that such a document be prepared and will be made available to submitters prior to the hearing. The report will identify the relief sought by submitters in relation to the Proposed Plan, the officers' recommendations to the hearing committee/Council on whether to 'accept', 'decline', 'accept in part', 'grant in kind' or 'no relief required' a submitter's requests, and the reasons for doing so. The report will also indicate if alternative relief is recommended and if other, consequential amendments are required as a result.

The section 42A report, as well as the revised track-changed version of the Proposed Plan, will be presented to the next Policy and Planning Committee meeting on the 11 June 2019 for Members' consideration, prior to being made available to all submitters. Following this, submitters who indicated that they wished to be heard in a formal hearing of submissions will then be asked to confirm their intention to be heard on certain matters or indicate that they wish to withdraw.

A hearing is required if any submitter has indicated in their submission that they wish to be heard at a hearing of submissions and have not since withdrawn their wish.

A possible hearing is likely to occur in July 2019 and it is proposed that it be chaired by three hearing commissioners. Officers suggest that the hearing consist of two Council councillors who are appropriately qualified plus one independent hearing commissioner who has expertise in tikanga Māori and issues relevant to tangata whenua. The use of independent hearing commissioners is a common practice for regional councils around New Zealand and allows Councils to seek individuals who have experience in issues relevant to the hearing.

Following the hearing, the hearing committee will be making its recommendations to Council. Council will then consider and make its decisions on Plan provisions and matters raised in submissions. Council considerations will also be informed through the preparation of a Section 32AA report. Officers are preparing a Section 32AA report on any changes that were not considered as part of the original Section 32 report. This report (amongst other things) will evaluate changes to the provisions to determine if they are the most appropriate way to achieve the objectives by considering other reasonable practical options, assessing the efficiency and effectiveness of the provision in achieving the objectives and identifying, and if practicable quantifying, the costs and benefits associated with the change.

The Council's decisions will then be publicly notified. If submitters are not satisfied with the outcome of the hearing, they may make an appeal to the Environment Court. Once all appeals and mediation have concluded the Council will be able to adopt formally changes made to the Proposed Plan.

Decision-making considerations

Part 6 (Planning, decision-making and accountability) of the *Local Government Act 2002* has been considered and documented in the preparation of this agenda item. The recommendations made in this item comply with the decision-making obligations of the *Act*.

Financial considerations—LTP/Annual Plan

This memorandum and the associated recommendations are consistent with the Council's adopted Long-Term Plan and estimates. Any financial information included in this memorandum has been prepared in accordance with generally accepted accounting practice.

Policy considerations

This memorandum and the associated recommendations are consistent with the policy documents and positions adopted by this Council under various legislative frameworks including, but not restricted to, the *Local Government Act 2002*, the *Resource Management Act 1991* and the *Local Government Official Information and Meetings Act 1987*.

Iwi considerations

This memorandum and the associated recommendations are consistent with the Council's policy for the development of Māori capacity to contribute to decision-making processes (schedule 10 of the *Local Government Act 2002*) as outlined in the adopted long-term plan and/or annual plan. Similarly, iwi involvement in adopted work programmes has been recognised in the preparation of this memorandum.

Legal considerations

This memorandum and the associated recommendations comply with the appropriate statutory requirements imposed upon the Council.

Agenda Memorandum

Date 30 April 2019



**Memorandum to
Chairperson and Members
Policy and Planning Meeting**

Subject: Review and approval of Port Safety Management System and navigation update

Approved by: AD McLay, Director – Resource Management

BG Chamberlain, Chief Executive

Document: 2235086

Purpose

The purpose of this memorandum is to inform Members of the review and approval by Maritime New Zealand (MNZ) of the Council's *Port and Harbour Safety Management System Manual for Port Taranaki and its Approaches* (the 'Management System').

The Harbour Master, Mr Tony Parr, will present the item and provide an update on navigation and safety management at the port and its approaches covered by the Navigation Bylaws for Port Taranaki and its Approaches (2009).

Executive summary

The Management System establishes a framework for the management of marine operations within Port Taranaki and its approaches for the promotion of navigation safety. The Management System been developed in compliance with the New Zealand Port & Harbour Marine Safety Code. Compliance with the code is voluntary.

The Management System was developed by the Council and Port Taranaki Ltd. The parties were the first to get their Management System approved in August 2007. It was last reviewed in August 2013.

The recent review occurred in November 2018 and approval was provided in March 2019.

The review panel concluded that the arrangements, measures, operating procedures and processes in the Taranaki Safety Management Systems were sufficiently robust, credible and effective to manage the regional maritime risks and reflect best practice. The review process raised many positive observations and raised three relatively minor administrative matters as opportunities for improvement.

Recommendations

That the Taranaki Regional Council:

1. receives this memorandum;
2. notes the Port and Harbour Safety Management System Manual was developed by the Council and Port Taranaki Ltd;
3. notes the Port and Harbour Safety Management System Manual has been approved by Maritime New Zealand with three relatively minor areas for improvement recommended.

Background

The Management System Manual establishes a framework for the management of marine operations within Port Taranaki and its approaches for the promotion of navigation safety. The Management System was developed by the Council and Port Taranaki Ltd. The parties were the first in New Zealand to get their Management System approved in August 2007 and it was last reviewed in August 2013.

The Management System for Taranaki has been developed in compliance with the New Zealand Port & Harbour Marine Safety Code. Compliance with the code is voluntary. The safety management objectives of the code are to:

- (a) provide for safe practices in port operation and a safe operating environment in the harbour;
- (b) identify all risks and establish safeguards to ensure that all identified risks are kept as low as reasonably practicable; and
- (c) continuously improve safety management skills of all personnel, including preparation for emergencies related both to safety and environmental protection.

The Code sets out a number of requirements through which the above objectives can be achieved. The Management System seeks to fulfil these requirements through the management of port and harbour operations that influence navigational safety.

The purpose of the Management System is to provide for the safe management of vessels in the Port and Harbour and the approaches, including prevention of human injury or loss of life, and avoidance of damage to property and the environment, in particular to the marine environment. The Management System aims to ensure that risks facing port operations and harbour users are as low as reasonably practicable.

The risk management component of the Management System aims to ensure that hazards facing port operations and harbour users are identified and used to inform a risk assessment. Risks are subsequently managed in the day-to-day commercial and recreational use of the Port, Harbour and approaches.

The Management System follows the format and content recommended by MNZ. The Management System clearly identifies the risks and responsibilities for managing the risks.

A copy of the Management System is attached.

The Council has a contract with Port Taranaki Ltd regarding the implementation of the Management System and appointment of Deputy Harbourmasters for the Port Taranaki area and related matters.

Approval

The Management System was forwarded to MNZ for assessment in September 2019. The approval process involved a panel of experts reviewing documents, interviews with key stakeholders and a site visit, which occurred in November 2018.

The attached letter from MNZ, received in March 2019, outlines the approval of the Management System.

Discussion

The Management System is a very useful risk management tool for port commercial operations and for the Council in managing navigation and safety. The approval is therefore positively received.

The approval followed an extensive peer review process by very experienced panel. The panel concluded that the arrangements, measures, operating procedures and processes in the Safety Management System Manual are sufficiently robust, credible and effective to manage the Port, Harbour and approaches maritime risks and reflect best practice. The panel found that, while there were areas for improvement, there was good documentation, sufficient transparency, suitably trained people in place and good alignment between the port and harbour safety management system to facilitate marine safety performance and adherence with the Code standard. The establishment of a Marine Panel was noted by the reviewers as a key communication and information-sharing tool for the port and harbour safety management system, and essential to the success of the port and harbour operations.

The review made many positive comments and raised three relatively minor matters for improvement concerning the Harbour Master's involvement in pilot and pilot exemption certification processes and inclusion in adverse weather decisions for port closure, and the need for Port Taranaki Ltd to appoint a permanent Head of Marine Services.

The review process was a positive exercise for all parties and raised some matters for potential use elsewhere in New Zealand (e.g. marine panel).

The Management System will next be reviewed in 2023.

Decision-making considerations

Part 6 (Planning, decision-making and accountability) of the *Local Government Act 2002* has been considered and documented in the preparation of this agenda item. The recommendations made in this item comply with the decision-making obligations of the *Act*.

Financial considerations—LTP/Annual Plan

This memorandum and the associated recommendations are consistent with the Council's adopted Long-Term Plan and estimates. Any financial information included in this memorandum has been prepared in accordance with generally accepted accounting practice

Policy considerations

This memorandum and the associated recommendations are consistent with the policy documents and positions adopted by this Council under various legislative frameworks including, but not restricted to, the *Local Government Act 2002*, the *Resource Management Act*

1991, *Maritime Transport Act 1994*, and the *Local Government Official Information and Meetings Act 1987*.

Iwi considerations

This memorandum and the associated recommendations are consistent with the Council's policy for the development of Māori capacity to contribute to decision-making processes (schedule 10 of the *Local Government Act 2002*) as outlined in the adopted long-term plan and/or annual plan. Similarly, iwi involvement in adopted work programmes has been recognised in the preparation of this memorandum.

Legal considerations

This memorandum and the associated recommendations comply with the appropriate statutory requirements imposed upon the Council.

Attachments

Doc 22220608 letter of approval.

Doc 2238212(PDF) Port Taranaki and Harbour Safety Management System Manual (2019).



7 March 2019

Ref: D19/ 2677

Basil Chamberlain
Chief Executive
Taranaki Regional Council
Private Bag 713
Stratford 4352

Guy Roper
Chief Executive
Port Taranaki Ltd
PO Box 348
Taranaki Mail Centre
New Plymouth 4340

Dear Messrs Chamberlain and Roper

NZ Port and Harbour Marine Safety Code Safety Management System Peer Review and Final report

I am pleased to advise that the Safety Management Systems (SMS) for Taranaki port and harbour have been assessed and found to be consistent with the requirements of the New Zealand Port and Harbour Marine Safety Code (the Code) 2016.

The Safety Management Systems for Taranaki port and harbour were previously audited in August 2013 and confirmed as Code compliant.

In November 2018 the panel commenced its review of the SMS for Port Taranaki and Taranaki Regional Council. The process encompassed a desktop review of relevant documentation provided by your organisations and a site visit on 21 and 22 November 2018.

The panel concluded that the arrangements, measures, operating procedures and processes in the Taranaki Safety Management Systems are sufficiently robust, credible and effective to manage the regional maritime risks and reflect best practice. The panel found that, while there were areas for improvement, there was good documentation, sufficient transparency, suitably trained people in place and good alignment between the port and harbour SMS to facilitate marine safety performance and adherence with the Code standard. The establishment of a marine panel was noted by the reviewers as a key communication tool and essential to the success of the port and harbour operations.

We should like to acknowledge the active participation in the process by Guy Roper, Chief Executive of Port Taranaki and Fred McLay, Director Resource Management, Taranaki Regional Council. We extend our thanks also to Tony Parr and Chris Musgrave who participated in the review process. We commend all parties for their genuine efforts to ensure there is a robust system in place for the management of safe navigation of vessels through the harbours managed by the Taranaki Regional Council.

The findings of the review panel that the SMS for Taranaki port and harbour is consistent with the requirements of the New Zealand Port and Harbour Marine Safety Code 2016 have been endorsed by the Code Working Group. A copy of the final report is **attached**.

This is a positive outcome and reflects a strong commitment to the Code by the Taranaki Regional Council and Port Taranaki Ltd

The review panel identified a few areas for improvement as noted in the attached report. These pertain to greater involvement of the Harbourmaster in any Pilot and PEC exam panels and in adverse weather decision-making. The panel expressed encouragement for the appointment of a Marine Services Manager to oversee the safe operations in the port. These areas for improvement will be followed up at the next review of the SMS's and should be addressed during the annual self-assessment of the SMS by the Taranaki Regional Council and Port Taranaki Ltd.

This review was conducted for the purposes of the New Zealand Port & Harbour Marine Safety Code 2016. The review panel and the Code Working Group assume no responsibility to any person who relies on this letter of confirmation for any other purpose.

It is expected that both the Taranaki Regional Council and Port Taranaki Ltd will remain Code consistent through annual self-assessments of the SMS and external audits as appropriate. A copy of the annual self-assessment and any external reviews should be forwarded to the Code Secretariat:

NZ Port & Harbour Marine Safety Code Secretariat
C/- Maritime New Zealand
1 Grey Street
PO Box 25-620
Wellington 6140
marinesafetycode@mnz.govt.nz

Information gathered from all ports, harbours and regional councils from their annual self-assessments and from the SMS review programme is consolidated and used to measure the level of consistency against the Code standard on a national basis and to inform the scheduling of future SMS reviews.

You may expect the next review to take place within 3-5 years. In the interim period please do not hesitate to contact the Code Secretariat or any member of the Working Group for assistance with any aspect of the implementation of the Code.

Yours sincerely



Tony Phipps
Chair, Code Working Group
NZ Port & Harbour Marine Safety Code

Port Taranaki and Harbour Safety Management System Manual

*MNZ Approved
16 August 2007*





A handwritten signature in black ink, appearing to read "Guy Roper".

.....
Guy Roper
Chief Executive
Port Taranaki Limited

A handwritten signature in blue ink, appearing to read "Basil Chamberlain".

.....
Basil Chamberlain
Chief Executive
Taranaki Regional Council

**Port Taranaki and Harbour
Safety Management System Manual**

**Maritime New Zealand initially Approved
6 August 2007**

Revised 08 November 2018

Manual No ____

Taranaki Regional Council
Private Bag 713
Stratford

Updated November 2018
Reviewed: August 2016
Document 2155029



Certificate of Approval for

Harbour Safety Management System

Approval No: 07 – 01

Issued in accordance with Section 1.4.1 of the New Zealand Port
and Harbour Marine Safety Code

Harbour:	Port Taranaki and Harbour
Scope of Safety Management System:	All that area covered by Taranaki Regional Council Navigation Bylaws for Port Taranaki and its Approaches 2003
Regional Council:	Taranaki Regional Council
Port Company:	Port Taranaki Limited

This is to certify that the above Harbour Safety Management System has
been reviewed and assessed by Maritime New Zealand as complying with
the requirements of the New Zealand Port and Harbour Marine Safety Code.

This approval is given subject to the conditions set out in
Maritime New Zealand letter dated **6 August 2007**

This approval is valid until: **11 July 2010**

Date of issue: **16 August 2007**

A handwritten signature in black ink, appearing to read 'Catherine Taylor'.

**Catherine Taylor
Director**



APPROVAL OF HARBOUR SAFETY MANAGEMENT SYSTEM

Issued in accordance with Section 1.4.1 of the New Zealand Port and Harbour Marine Safety Code
by MARITIME NEW ZEALAND

Consistent with its function under section 431(1)(a) of the Maritime Transport Act 1994 to promote
maritime safety and security, and protection of the marine environment in New Zealand

to

Taranaki Regional Council

THIS CERTIFICATE OF APPROVAL certifies that the Safety Management System for **Port Taranaki
and Harbour** developed by:

Taranaki Regional Council

and

Port Taranaki Limited

was audited by Maritime New Zealand on 8 September 2010 and complies with the requirements at
Section 2.2.3.2. of the New Zealand Port and Harbour Marine Safety Code.

This Certificate of Approval:

- Is not a maritime document issued under the Maritime Transport Act 1994.
- Is subject to the conditions set out in Schedule 1;
- Is valid until 7 September 2015

Approval No: 11-01

A handwritten signature in black ink, appearing to be "Sharyn Forsyth", written over a horizontal line.

SHARYN FORSYTH
General Manager Maritime Services
Acting under delegated authority

14/3/2011

Date

ID 343682

Note:

This document will be periodically subject to review and change and it will be necessary to ensure up to date versions are maintained at Taranaki Regional Council and Port Taranaki Limited. Both organisations have document management systems for this purpose. The hard copies of the document will be numbered and a register of holders maintained by the Secretary to the Director—Resource Management.

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1. Port Taranaki and Harbour Safety Management System

1.1 Introduction

The *Port Taranaki and Harbour Safety Management System Manual* establishes a framework for the management of marine operations within Port Taranaki and its Approaches (together known as “**Taranaki Harbour**”) for the promotion of navigation safety. The Port and Harbour area, to which the **Safety Management System (the “SMS”)** applies, is shown in Figure 1 and represents the area of greatest risk to marine operations in the Taranaki region.

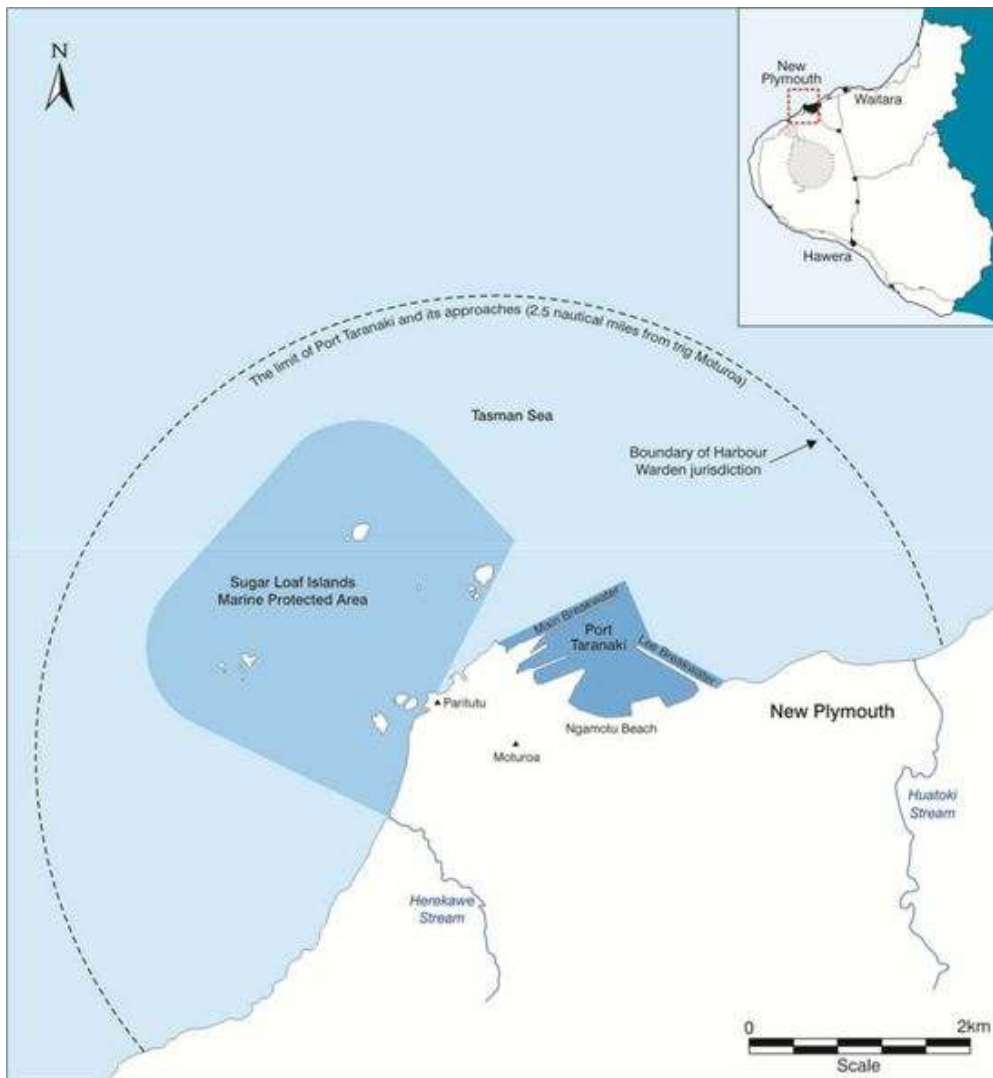


Figure 1: Port Taranaki and its approaches covered by the Navigation and Safety Bylaw

The purpose of the SMS is to provide for the safe management of vessels in the Port and Harbour, including prevention of human injury or loss of life, and avoidance of damage to

the environment, in particular to the marine environment and to property. The SMS aims to ensure that risks and hazards facing Port operations and Harbour users are lowered So Far As is Reasonably Practicable (SFARP).

The SMS for Taranaki Harbour has been developed in compliance with the *New Zealand Port and Harbour Marine Safety Code (the "Code")*. It also complies with the relevant provisions of the Maritime Transport Act 1994 (*the "MTA"*), Maritime and Marine Protection Rules, Local Government Act 2002 (*the "LGA"*), Navigation Bylaws (*"Bylaws"*) and other relevant legislation.¹

The SMS follows the format and content recommended by Maritime New Zealand (**Maritime NZ**). The SMS clearly identifies the risks and responsibilities for managing the risks associated with safe navigation in the Port and Harbour.

1.2 New Zealand Port and Harbour Marine Safety Code

The Code is a voluntary national standard for the safe management of marine activities in ports and harbours to support national and local legislation. It provides guidance where standards are not prescribed in law or where use of legislative powers may be discretionary. It covers all activity associated with the movement of ships entering, leaving and navigating within ports and harbours. In April 2016 Port operators, Regional Councils and Maritime NZ collaborated to publish a new edition of the 2004 Code.

The objective of the Code is to ensure the safe management of ships navigating in New Zealand ports and harbours, including the prevention of:

- Injury to people or loss of life; and
- Damage to the environment, particularly to the marine environment, and also to property.

The Code promotes a systems approach to the management of safety to ensure that risks are identified and managed in a structured and sustainable way that fosters continuous improvement.

Port Taranaki Limited and Taranaki Regional Council implement the Code by:

- Ensuring they comply with all legislation as it applies to them;
- Identifying the areas where they should apply the standards in the Code, taking into account the risks to navigation safety, and keeping this under continual review as necessary; and
- Developing and operating an SMS for those areas which is supported by a formal risk assessment.

1.3 Safety Management System components

Under the Code, every Harbour and Port applying the Code develops and maintains its own SMS. The **key features** of an effective SMS are as follows:

- Regular collegial communication between the Harbourmaster and the Port equivalent position to develop and maintain the SMS;

¹ Taranaki Regional Council: *Navigation Bylaws for Port Taranaki and its Approaches 2009* (November 2009). The Bylaws were reissued in 2014 following the process set out in the Local Government Act.

- Involvement of key stakeholders in developing and maintaining the system;
- Effective safety policies and procedures setting a clear direction for the organisation to follow;
- An effective management structure that has arrangements in place for delivering the policies;
- A planned and systematic approach to implementing the policies and procedures through the SMS;
- Measurement of performance against agreed and documented standards to reveal when and where improvement is needed;
- Regular reporting to the management of the Council and Port Operator so that there is effective information-sharing; and
- Learning from relevant experience and applying agreed changes.

Together these elements create a cycle aimed at ensuring the achievement of safety goals, the relevance of the SMS and a continuous improvement in safety performance. To achieve the Code standard, it is essential that systems and associated records are rigorously maintained, so that in the event of an incident, the Council and/or Port Operator can demonstrate continuous compliance with good practice.

The components and their relationship in terms of delivering a successful SMS are shown in Figure 2.

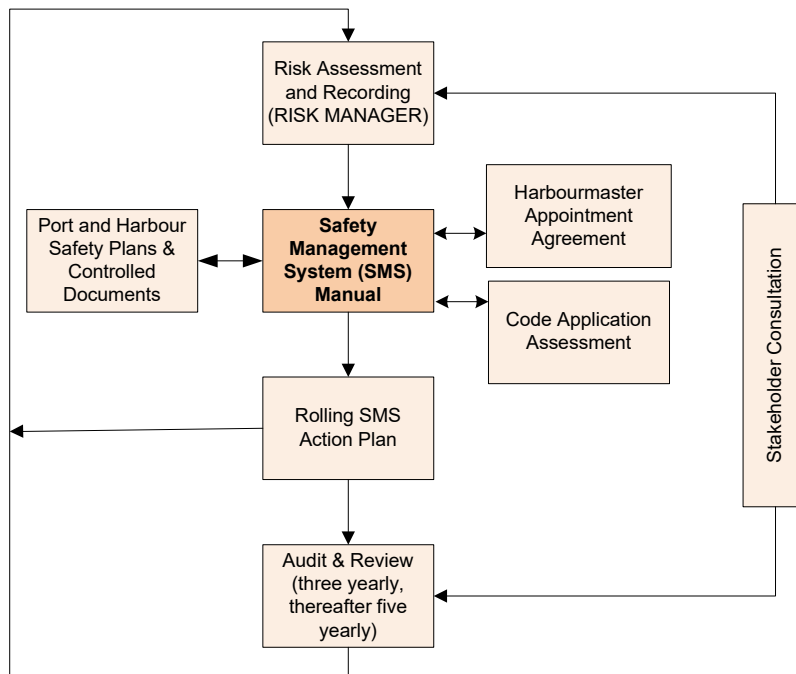


Figure 2: Safety Management System components

1.4 Development of the Safety Management System

Responsibility for the development of the Port Taranaki and Harbour SMS is shared between the Port Operator **Port Taranaki Limited (Port Taranaki)** and **the Taranaki Regional Council (the Council)**. Port Taranaki and the Council will together continue to be responsible for the design, content and general administration of the SMS.

Port Taranaki's designated person in charge of the development of the Port Taranaki SMS (see Figure 3) is the **Head of Marine Services**.

The **Harbourmaster** is the Council's designated person in charge of the development of the wider Harbour SMS, with support and input from Council officers as required.

Any potential conflict of interest is addressed in the *Agreement Regarding the Appointment of Harbourmaster for the Port Taranaki and Related Matters* reviewed in December 2017 (see section 2.2.3). This document is the equivalent of a Memorandum of Understanding between Port Taranaki and the Council for the management of the SMS.

The principal forum for the ongoing development and application of the Port Taranaki and Harbour SMS is the **Marine Panel**². The Panel is chaired by the Harbourmaster and attended by the Head of Marine Services, the Marine Services Manager, the duty pilot(s) (P1 and P2) and the Marine Services Administrator. The Panel meets at intervals not exceeding quarterly.

² Marine Panel Terms of Reference are held in the TRC document registry FRODO. Document number 2038594

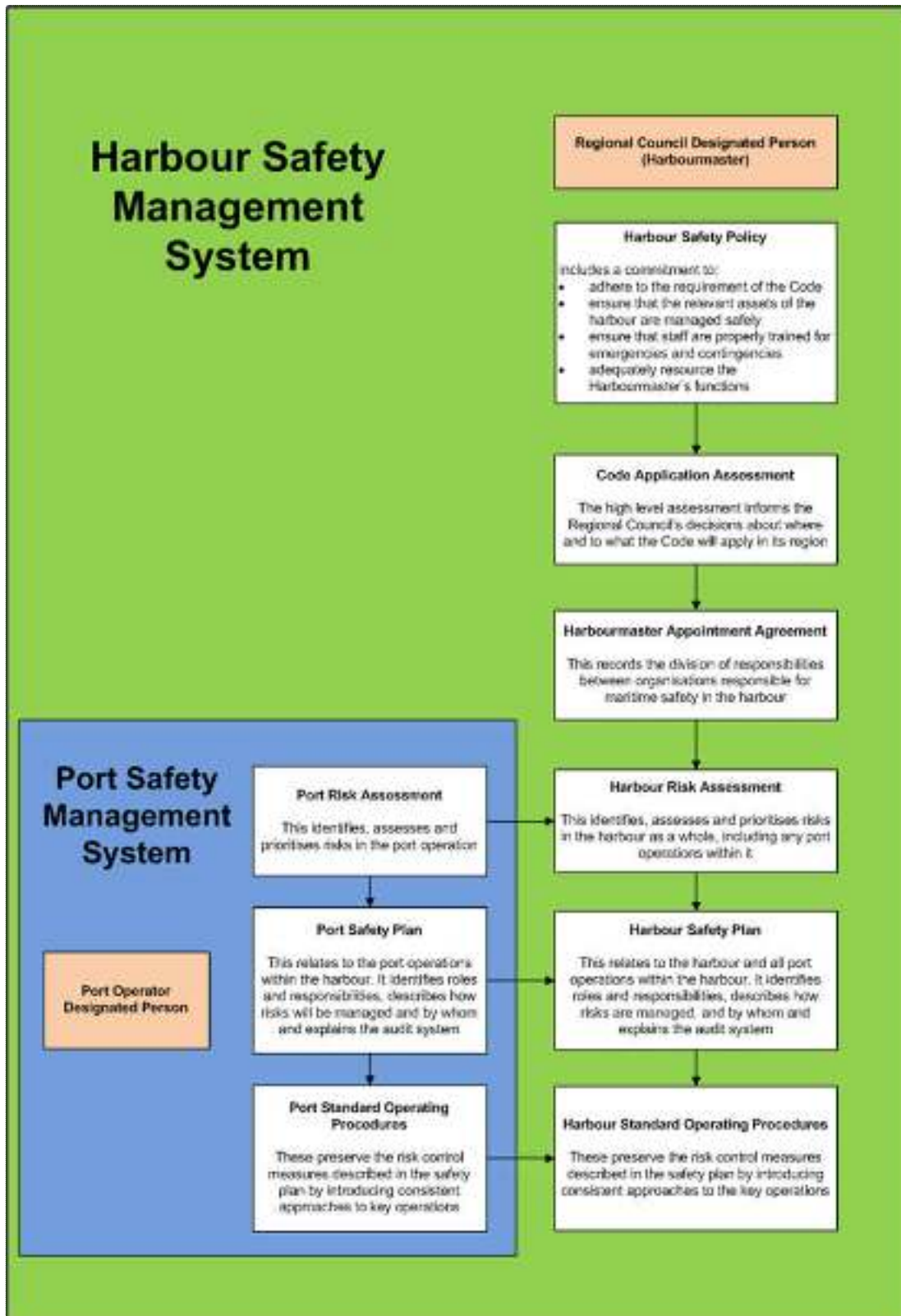


Figure 3: Development of a Port and Harbour Safety Management System

1.5 Document approval process and management

The original SMS was approved by Maritime NZ on 16 August 2007. Changes to the SMS identified through operational experience are considered by Port Taranaki and the Council, in the first instance by the Marine Panel³ and the SMS amended to suit. If significant changes are required requiring reference to the Code, then approval will be sought from Maritime NZ and only actioned when it has been obtained. Interim Maritime NZ's approval may be provided if the changes require immediate implementation.

Changes are communicated to all the SMS users which are mainly at Port Taranaki. The latest version of the SMS Manual is available to staff at the Port Taranaki Limited Document Control system (the “**PTL Document Control system**”) and the Council Document Management System (“**FRODO**”). Changes arising from the five yearly reviews (refer Section 7.3) shall be communicated to the SMS users and the SMS shall be included as part of normal staff induction and training.

A diary of events leading to the approval of the SMS is set out below. The diary shall also be used to track changes to the SMS.

SMS Manual Diary

Date	Action	Comment
16 August 2007	Maritime NZ presented approval certificate to Council	First SMS approval in New Zealand
11 March 2009	Maritime NZ Audit	No issues requiring attention
1 September 2010	Periodic review of manual	Minor changes to reflect Bylaw title and minor content changes and correct a few typos. Also some staff changes arising from a restructuring.
25 August 2014	Periodic review of Manual	Changes resulting from new Risk Assessment computer programme.
April 2016	The port operators, regional councils and Maritime NZ have collaborated on a new edition of the 2004 New Zealand Port and Harbour Marine Safety Code	
April - August 2016	Periodic review of Manual	Changes made resulting from the replacement of risk management software (Marnis to RISK MANAGER) and changes in the revised (2016 edition) New Zealand Port and Harbour Marine Safety Code
June – October 2018	Periodic review of Manual	Changes made to reflect 2017 edition of the Port and Harbour Marine Safety Code

³ The Marine Panel meets at least quarterly, chaired by the Harbourmaster and attended by the Manager Marine Services, Harbour Pilots and Marine Services Coordinator.

2. Harbour Safety Policy

The Code requires that the Council and Port Taranaki exercise their statutory and regulatory duties through the SMS. The Harbour Safety Policy is a primary component of the overall SMS.

2.1 Policy development and communication

The Harbour Safety Policy has been developed by the Harbourmaster and Port Taranaki.

The Harbour Safety Policy has evolved over time through formal and informal means. Stakeholder input to the development of the Policy has been achieved through the following means:

- **Port Taranaki Standard Conditions of Business** which are available on the Port Taranaki's website www.porttaranaki.co.nz; and
- Quarterly meetings of the Port Safety Advisory Group (PSAG) consisting of the major commercial stakeholders in the Port Area including: ship's agents, Port Taranaki line managers, representatives from oil and gas companies with activities at Port Taranaki, the bulk products trades, the stevedoring industry and Commercial Fishermen's Association.

Additional input to the Policy is achieved through:

- Honorary enforcement officers (Harbour wardens) meetings held annually;
- Regular contact with charter boat operators and recreational water users;
- Monitoring and auditing of commercial leisure activities such as canoe hire, organised athletic events etc; and
- Communication of "special events" coordinated with organisers and promulgated through the media.

The Harbourmaster prepares an annual report for the Council outlining navigation and safety management matters, which is summarised in the Council's Annual Report under the LGA, including any changes to risks and how they will be managed.

The Harbour Safety Policy has been communicated to staff through the following means:

- Regular safety meetings;
- PTL promotional publications;
- PTL document control system;
- Notice board fliers; and
- Toolbox meetings.

The Harbourmaster is responsible for managing maritime safety in the Taranaki Harbour. The Head of Marine Services is accountable for the safety of the Port Taranaki's marine operations.

Port Taranaki employs a Senior Health & Safety Advisor. Although the Senior Health & Safety Advisor's role is primarily concerned with promoting Health & Safety in the workplace in compliance with the Health and Safety at Work Act 2015, the Senior Health & Safety Advisor is also involved in promoting the navigation safety and communicating the Harbour Safety Policy to Port Taranaki employees.

The Council supports the development and implementation of a Harbour Safety Policy from an environmental and risk management perspective. The original Risk Assessment and Draft SMS have been received by the Council's Policy and Planning Committee in July 2005, and since then any significant changes have been reported to the Committee.

2.2 General

2.2.1 Statement of Commitment

The Council and Port Taranaki undertake to regulate marine operations in a way that safeguards the Port and Harbour, its users, the public and the built and natural environment. Specifically, Port Taranaki and the Council are committed to achieving the following objectives:

- To use the Code and its supporting guidelines as a standard against which the Council (through the Harbourmaster) and Port Taranaki (as the Port Operator), will measure themselves and be measured by others;
- To ensure that the relevant assets of the Harbour are managed safely;
- To enforce bylaws and Harbourmaster's directions appropriately;
- To ensure that staff are properly trained for emergencies and contingencies;
- To identify measures to address conflicts of interest; and
- To adequately resource the management of Port and Harbour navigation safety.

The Council's commitment is shown in the Long-term Council Community Plan 2018-2028.

It is acknowledged that, while the Code requiring the SMS is not mandatory, it assists in managing safety and the environment and Council will comply with its reasonable requirements.

2.2.2 Enforcement

Under the MTA, Maritime NZ has the ability to make rules prescribing safe navigation procedures. Maritime Rules Part 91 sets basic national navigation safety standards. It generally applies to areas that are not subject to navigation bylaws but has been included in the Port Taranaki navigational bylaws that apply to the Port and its approaches. Outside this area Maritime NZ is responsible for administering the Maritime Rules under the MTA and the Maritime Offences Regulations 1998. This means that Maritime NZ has the responsibility for enforcing compliance with Part 91 of the Maritime Rules. The Maritime Offences Regulations provide that the breach of a number of the rules contained in Part 91 is an offence.

Within Port Taranaki and its approaches, The Harbourmaster, Deputy Harbourmasters and honorary enforcement officers are empowered under the MTA to enforce navigation safety. They also have responsibility for ensuring compliance with the *Navigation Bylaws for Port Taranaki and its Approaches 2009* which apply within the Harbour and its approaches.

The Council's Harbourmasters are authorised to exercise the powers vested in that position under the MTA for the purpose of ensuring navigation safety or enforcing navigation bylaws. If necessary, in the exercise of any of those powers, the Harbourmaster may enter and remain on any ship, any maritime facility or any land or property of a Port Operator within the Council's region. Failure to comply with a Harbourmaster's directions or requirements is an offence under the MTA.

Pursuant to MTA, an honorary enforcement officer has such powers of enforcement under the Act as the Council specifies in the instrument of appointment. The Council's honorary enforcement officers are authorised to: (1) enforce the navigation bylaws; and (2) require any person committing an offence against the bylaws to give his or her name and address. Their primary role is one of informing and educating the boating public of the existence and content of navigation bylaws and safe boating and to issue boat users with warning notices (that have no statutory basis) if they are seen to be breaching any bylaws.

Any decision by the Council to prosecute for failure to comply with the directions of a Harbourmaster or for breach of the Navigation Bylaws will be made following a consideration of the circumstances of each case. The Council has the ability to issue infringement notices and to undertake prosecutions.

The Port Taranaki Head of Marine Services may issue directions in an operational capacity (as opposed to directions given by the Harbourmaster) and it is the responsibility of the Port Operator to administer these.

2.2.3 Conflicts of interest

The Council is the sole shareholder of the Port Operator Port Taranaki Limited and is represented on the Board. Operationally, the Port Taranaki is treated as any other company in the region in terms of monitoring and, if necessary, enforcing compliance with statutory requirements. The Council recognises the potential for a conflict of interest to arise between the port operations and navigational safety responsibilities. The Council has implemented a number of measures to ensure that conflicts of interest can be avoided and these are set out in a Harbourmaster Appointment Agreement. The Agreement essentially sets out how the Harbourmaster and Deputy Harbourmasters will act in these positions, even though the Deputy Harbourmasters are employed by Port Taranaki, and what will happen in the case of a conflict of interest.

The MTA provides that a Council may appoint such harbourmasters as it thinks necessary. The Council has appointed the Harbourmaster for the Taranaki region. The Marine Pilots, appointed by the Council as Deputy Harbourmasters and employed by Port Taranaki, are authorised to act as Harbourmaster by the Council, where the original Harbourmaster Appointee is absent or in a position of conflict of interest. There is no restriction in the MTA on the appointment of persons employed by a Port Operator.

The Harbourmaster Appointment Agreement specifically provides that a Deputy Harbourmaster is to act in absolute priority to his or her obligations as a Port Taranaki employee and that conflict of interest situations (actual or potential) are to be avoided. The Harbourmaster Appointment Agreement is regularly reviewed.

2.3 Navigation Safety Policy

Navigation Safety Policy objectives for the Port and Harbour are as follows:

- To comply with all legal duties and responsibilities for the regulation of vessel traffic and the safety of navigation;
- To develop and maintain an effective SMS based on the continuing assessment and mitigation of risk;

- To maintain access to Port services, by ensuring the provision of appropriate pilotage, traffic management, towage and berthing services;
- To develop a consensus for safe navigation through stakeholder input;
- To ensure that suitable anchorages, mooring locations and the best channels for navigation are determined, marked, monitored and maintained;
- To sustain harbour management functions in respect of hydrographic surveying, navigation, dredging and the provision and maintenance of navigation aids;
- To remove sunken vessels and other obstructions that are, or may become, an impediment to safe navigation;
- To communicate relevant navigational, tidal and weather information to all Port users as determined by the risk assessment;
- To facilitate the leisure use of the Port and Harbour, maintaining and protecting the rights of the public to access its waters for leisure use, whilst complying with the various navigational safety measures that may be in force;
- To create awareness and motivation of all Port and Harbour users with respect to safety and the protection of the environment;
- To publish and maintain contingency plans to cover emergency situations relating to the safety of life, property or the environment;
- To maintain appropriate emergency and oil spill response capabilities;
- To ensure that all Port and Harbour operational staff are trained to recognised standards and have appropriate experience for their roles and duties;
- To ensure that working craft, including tugs, pilot boats and work boats, are fit for their purpose and operated to appropriate safety standards;
- To review regularly duties and powers required to support and maintain an up-to-date set of bylaws in respect of navigational safety and enforce them so as to effectively regulate and facilitate Harbour use;
- To review the existing Port navigational aids in the light of risk assessment reviews and incident report findings; and
- To keep under review the cost effectiveness of modern technology for Harbour monitoring.

2.4 Supporting Procedures

2.4.1 Pilotage

Pilotage Procedure objectives for the Port and Harbour are as follows:

- To provide and operate a pilotage service as described in the Port Taranaki Pilotage Controlled Documents;
- To ensure that pilots are recruited, trained, examined and authorised to the required industry standards and in compliance with current pilotage legislation;
- To examine masters and mates of vessels, regularly using Port Taranaki, for pilotage exemption certificates (PECs);
- To promote a close and integrated working relationship between pilots, PEC holders, port control and Maritime NZ;
- To identify safe pilot boarding and landing areas;
- To enforce the use of master/pilot exchange documents and port passage plans by vessels using the Harbour so that the masters and pilot are fully prepared and in agreement on the details of the passage and manoeuvre;
- To periodically review, in consultation with Maritime NZ, the requirements for compulsory pilotage, reporting requirements and boarding and landing areas;

- To regularly review, in consultation with Maritime NZ, the pilotage service and exemption system to ensure that they continue to reflect the requirements of the Port with regard to the safety of navigation;
- To develop and maintain pilotage procedures to achieve the objectives set out above; and
- To provide a pilotage service which is competent and of such a standard it provides confidence to the masters and ship owners who use it.

2.4.2 Harbour Management

Harbour Management Procedure objectives for the Port and Harbour are as follows:

- Hydrographic surveys are conducted at intervals of not more than twelve months or as required by risk assessment or reports of depth changes, whichever occurs first. These surveys do not include leisure vessel berths and their approaches unless particular shallows are reported. Any changes in declared depths which are detected unintentionally or by incident are reported using the RISK MANAGER Event (*Accident and Incident*) reporting system as noted in Section 5 of this document. Such a report would be considered by the Harbourmaster and surveyed as appropriate;
- To comply with the Maritime NZ Guidelines entitled Good Practice for Hydrographic Surveys in New Zealand Ports and Harbours;
- To keep navigation channels, clear of wrecks, obstructions or other dangers. Should a wreck or other object exist which may be seen as a danger to navigation, the Harbourmaster shall, if appropriate, use his/her powers to have it removed. The aim being to reduce any risk to as low as is reasonably practicable;
- To provide and maintain navigation aids within Port Taranaki and its Approaches in accordance with Maritime NZ Guidelines entitled *Providing Aids to Navigation in New Zealand* so as to facilitate safe navigation (see Section 4.2.2);
- To regularly review operating procedures for Port Taranaki and its Approaches in relation to the dredging and maintenance of navigation channel depths and the provision of adequate navigation aids. During dredging operations, regular progress meetings are held by the Marine Services Manager. Dredger location is broadcast by New Plymouth Harbour radio and electronically entered on a digital chart for the use of pilots;
- To ensure that information relating to the status of navigation channels is regularly disseminated to port users and stakeholders. Commencement and completion of dredging is publicised by local newspaper and by *Temporary Notices to Mariners*;
- To develop and maintain Harbour Management Procedures to achieve the objectives set out above; and
- To provide information on current weather and tidal conditions.

2.4.3 Traffic Management

Traffic Management Procedure objectives for the Port and Harbour are as follows:

- To conduct traffic management in accordance with the Council's Navigation Safety Bylaws and in conjunction with the PTL Document Control System; and
- To control and monitor all commercial vessels movements within the pilotage district through New Plymouth Harbour Radio. This is operated on the authority of the Harbourmaster and all traffic control is under his/her authority (see Section 4.2.7.3). Note this is not a *Vessel Traffic Service* (VTS). It provides vessel movement information only.

The movement of recreational vessels is not monitored by the Port Taranaki, but they are encouraged to communicate with Taranaki Coastguard for Trip Reporting and safety information.

New Plymouth Harbour Radio maintains a 24/7/365 operational watch. It listens on the following frequencies:

New Plymouth Harbour Radio Listening Watch Frequencies/Channels	
2182 KHz	24H
4125 KHz	0015 - 0030
	0415 – 0430
	0815 – 0830
	1215 – 1230
	1615 – 1630
	2015 – 2030
VHF Ch 11	24H
VHF Ch 12	24H
VHF Ch 16	24H
VHF Ch 61	24H

All Port Taranaki radio operators are licensed and comply with PTL Document Control System.

2.4.4 Tugs and Towage

The Tug and Towage Procedure objective for the Port and Harbour is to provide safe and efficient towage facilities in compliance with national and international standards, the PTL Document Control System, and to customers’ requirements. This is achieved and maintained through continuous review, risk assessment and consultation with pilots, port users and port operators. This process is an important risk response control.

The Port Taranaki Controlled Documents incorporate guidelines for the provision of towage for all vessel movement operations and are based on type of vessel, vessel length, weather conditions and type of tug and towage operation required. Regular reviews of towage provisions are undertaken and, in particular, when new trade or conditions are encountered, then risk analysis procedures are undertaken to determine the safe level of towage requirements for the new conditions.

2.5 Other

2.5.1 Leisure users

The Council’s policy in relation to the recreational use of Taranaki Harbour is set out in the Council’s *Navigation Bylaws for Port Taranaki and its Approaches 2009*. The Bylaws include Maritime Rules Part 91, enabling all the requirements relating to vessel speed, water skiing or towing, the wearing of personal flotation devices, etc to be enforced by the Harbourmaster and Deputy Harbourmasters.

2.5.2 Protection of the Marine Environment

At the national level the protection of the marine environment is achieved through the provisions of the Resource Management Act 1991, Marine Pollution Regulations and the Taranaki Region Coastal Plan. Monitoring and enforcement is carried out by Te Taranaki Regional Council.

Within the Taranaki region, the RMA is given effect to through the mechanisms contained in the *Regional Policy Statement for Taranaki 2009* and the *Regional Coastal Plan for Taranaki 2018*. This plan is under review.

The following Port Taranaki Controlled Documents contain policies and procedures relating to the protection of the environment within Port Taranaki and its Approaches:

- POL-0015 Environment Management Plan;
- PRO-0049 Port Taranaki Tier One Oil Spill Response Plan;
- PRO-0051 Port Taranaki Emergency Response Plan;
- PRO-0034 Incident Reporting and Investigation Procedures; and
- PRO-0091 Health and Safety Management System.

2.5.3 Control of Dangerous Goods and Substances

The Health and Safety at Work (HSW) Act 2015 administered by WorkSafe New Zealand came into force on 4 April 2016 and includes regulations relating to hazardous substances.

The International Maritime Dangerous Goods Code (2006 edition), the IMDG Code (Blue Book), contains details on the stowage, carriage and handling of dangerous cargoes at sea. Responsibilities for the correct and appropriate stowage and handling of Dangerous Goods is set out in the Maritime Rule Part 24A (“Carriage of Cargoes – Dangerous Goods”).

All these publications should be available on board any vessel visiting New Zealand waters carrying dangerous goods but are held for reference by the Harbourmaster.

The following Port Taranaki Controlled Documents contain policies and procedures relating to the control of Dangerous Goods and Substances within Port Taranaki and its Approaches:

- PRO-0051 Port Taranaki Emergency Response Plan;
- PRO-0091 Health and Safety Management System;
- POL-0015 Environment Management Plan;
- PRO-0041 Hazard Identification and Management;
- PRO-0058 Handling Hazardous ISO Containers; and
- PRO-0059 Approval for Handling Hazardous Cargo.

Port Taranaki complies with the requirements of the Health and Safety at Work (Major Hazard Facilities) Regulations 2016.

Any incident involving Dangerous Goods and/or Substances on board a vessel which requires the assistance of outside services such as Maritime NZ, New Zealand Police, Worksafe New Zealand, New Zealand Fire Service, Port Operators etc shall be conducted within the relevant services remits. No specific agreements are in place for the provision of outside services.

3. Responsibility for Safety Management

3.1 Functional structure for the management of navigational safety

The structure for the management of navigational safety in the Port and Harbour is illustrated below in Figure 4.

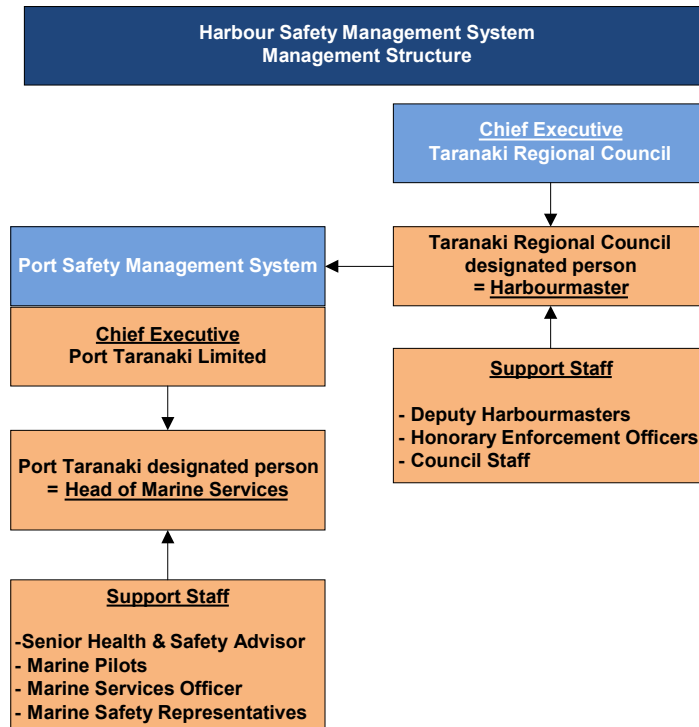


Figure 4: Functional structure for the management of navigation safety within Port Taranaki and its Approaches

At the Port Taranaki, the Head of Marine Services reports to the Port Taranaki Chief Executive. The Marine Department Safety Representatives and the Marine Pilots report to the Head of Marine Services.

At the Council, the Harbourmaster reports to the Council’s Chief Executive by way of the method of appointment, although the day-to-day management of the Harbourmaster is the responsibility of the Director- Resource Management, a second-tier management position. The Deputy Harbourmasters report to the Harbourmaster. Council policy and other staff are involved in the development of Harbour Navigation Safety Policy with the Harbourmaster. The Honorary Enforcement Officers are appointed by the Council pursuant to section 33G(a) of the MTA and meet with the Council and Harbourmaster annually.

3.2 Individual accountability and responsibilities

The various officers and organisations referred to above have different responsibilities and related accountabilities:

- The Council is accountable for providing for and regulating navigation safety in ports and harbours within the Taranaki region (see section 3.5).
- The Chief Executive of Port Taranaki is responsible for managing Port Taranaki marine operations safely.
- The Chief Executive of Port Taranaki and the Chief Executive of the Council must clearly assign executive and operational responsibilities for marine safety to the appropriate staff.
- The Harbourmaster is the Council's designated person responsible for ensuring that the Harbour SMS functions effectively, independent of commercial interests. The Harbourmaster also:
 - Coordinates the integration of the Port SMS into the Harbour SMS; and
 - Has principal operational responsibility for the safety of navigation in the Harbour.
- The Port Operator's designated person (the Head of Marine Services) is responsible for conducting a Port Taranaki Risk Assessment and for ensuring that the Port's aspect of the Harbour SMS functions effectively.

3.3 Duties of each organisation

3.3.1 Maritime New Zealand

Maritime NZ has a statutory function to promote maritime safety and security, and protect the marine environment, both in New Zealand and in accordance with New Zealand's international obligations. Maritime NZ's functions include the provision of information and advice about maritime transport and marine protection, and the licensing of ships, their operations and crews. Maritime NZ also has oversight of all aids to navigation in New Zealand.

Maritime NZ also administers other Acts with regard to ports and ships, including the:

- Maritime Security Act 2004 for ports and ships;
- Health and Safety at Work Act 2015 in New Zealand ships; and
- Hazardous Substances and New Organisms (HSNO) Act 1996 on board ships.

The Director has an independent statutory function to administer and enforce the MTA and has various powers to enable this. These include enforcing obligations in the MTA and in Maritime and Marine Protection Rules relating to the operation of ships and commercial ports, including:

- Licensing pilots and issuing PECs;
- Approving aids to navigation;
- Directing that a pilot must be used;
- Requiring councils to remove or deal with wrecks; and
- Issuing directions with regard to hazardous ships.

The Director can also inspect and audit commercial port operations and apply prohibitions or conditions.

3.3.2 Taranaki Regional Council

The Council has a general purpose under the Local Government Act to "promote the social, economic, environmental and cultural well-being of communities, in the present and for the future".

Under the MTA, the Council has the power to regulate navigation activities for the purpose of ensuring navigation safety. It does this through the appointment of harbourmasters, enforcement officers and honorary enforcement officers to carry out certain of those powers and through the creation of navigation bylaw.

The Council:

- Uses its statutory powers to manage and maintain its Harbour so it is fit for its intended use;
- Provides adequate information about the condition of its Harbour, including prevailing environmental conditions, so users can determine whether they are safe;
- Considers the safe and efficient operation of services and amenities provided in the Harbour;
- Makes sufficient resources available to discharge their maritime safety obligations under the MTA; and
- Ensures that commercial considerations do not interfere with the effective discharge of its public interest, marine and navigation safety duties.

Specifically, the Council:

- Keeps hydrographic and hydrological records, taking reasonable care to ensure that stated depths are correct; and
- Provides this information to the public and Harbour users, including appropriate warnings, if hydrographic and hydrological information is not current.

In line with their assessment of any risks, the Council:

- Monitors and marks the navigable channels in the Harbour in conjunction with Port Taranaki; and
- Exercises powers to remove wrecks and obstructions to allow safe navigation.
- The above is delivered for the Council by Port Taranaki under an agreement between the parties.

The Council's Policy and Planning Committee deals with navigation and safety matters with reporting to the full Council through meeting minutes.

3.3.3 Port Taranaki Limited

As the Port Operator, Port Taranaki is responsible for managing marine operations within the Port safely. The Directors of Port Taranaki are responsible for ensuring that the Port discharges its duties to the standards required by the Code.

Port Taranaki:

- Ensures that the Port is in a fit condition for use by the ships that it serves, including the provision of adequate channels and berth;
- Provides Port users and the Harbourmaster with adequate information about the Port facilities and operating limitations; and
- Provides aids to navigation for the Port.
- In line with its assessment of any risks, Port Taranaki:
- Marks, monitors and maintains the navigable channels necessary for the safe operation of the Port;
- Takes reasonable care to ensure that stated water depths are maintained; and
- Provides any necessary marine services such as pilotage and towage.

3.4 Harbourmaster Appointment Agreement

The Council and Port Taranaki have entered into a Harbourmaster Appointment Agreement in relation to the incorporation of the Port SMS into the Harbour SMS. The Agreement sets out the responsibilities of the Harbourmaster and Deputy Harbourmasters, and what will happen in situations of a conflict of interest (see section 2.2.3).

4. Implementation

4.1 Code Application Assessment

Councils are responsible for making a Code Application assessment for the purpose of identifying harbours, and port operations within them, to which the Code and its supplementary guidelines will apply. The Code requires a high-level risk assessment to form the basis of the Code Application assessment.

The Council has carried out a Code Application assessment which involved identifying any harbours/areas used by recreational or commercial users, undertaking a navigation and safety hazard identification process, assessing the level of use of the harbours/areas and the existing safety management regimes, and finally determining the relative risk of each harbour. The locations of the recreational and commercial boating activities are shown in Figure 5. The locations are where there is boat access to estuaries or the sea from boat ramps.

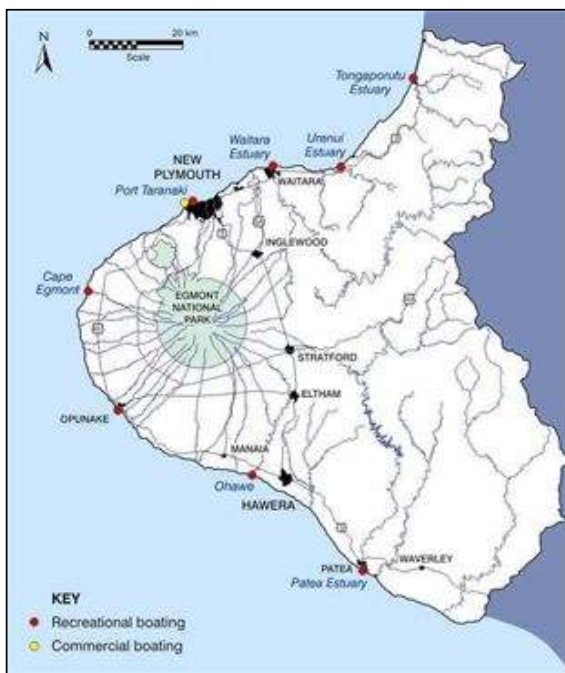


Figure 5: Location of commercial and recreational boating activities

The assessment has shown that Port Taranaki dominates both recreational and commercial activities in Taranaki’s marine environment and poses the highest risk. Cape Egmont, Opunake and Ohawe provide facilities for direct access of recreational boats to the sea. The latter two are very small and not frequently used. Recreational activities also occur at the Tongaporutu, Urenui, Waitara and Patea estuaries. However, these estuaries are very small harbours used mainly by recreational boaters and do not pose the same level of risk as Port Taranaki and its Approaches and are therefore not covered within this SMS.

4.2 Port and Harbour Risk Assessment

4.2.1 Introduction

Risk management is an ongoing process which is now completed using the Port Taranaki electronic safety management system “RISK MANAGER”, a port wide computer

programme. The Hazard Module within RISK MANAGER has been reviewed and reformatted to satisfy the requirements of the Code. This program processes the hazards and risk management data to provide a ranked order of hazards based on the risk consequence and likely frequency of related incidents. The most critical being ranked the highest order.

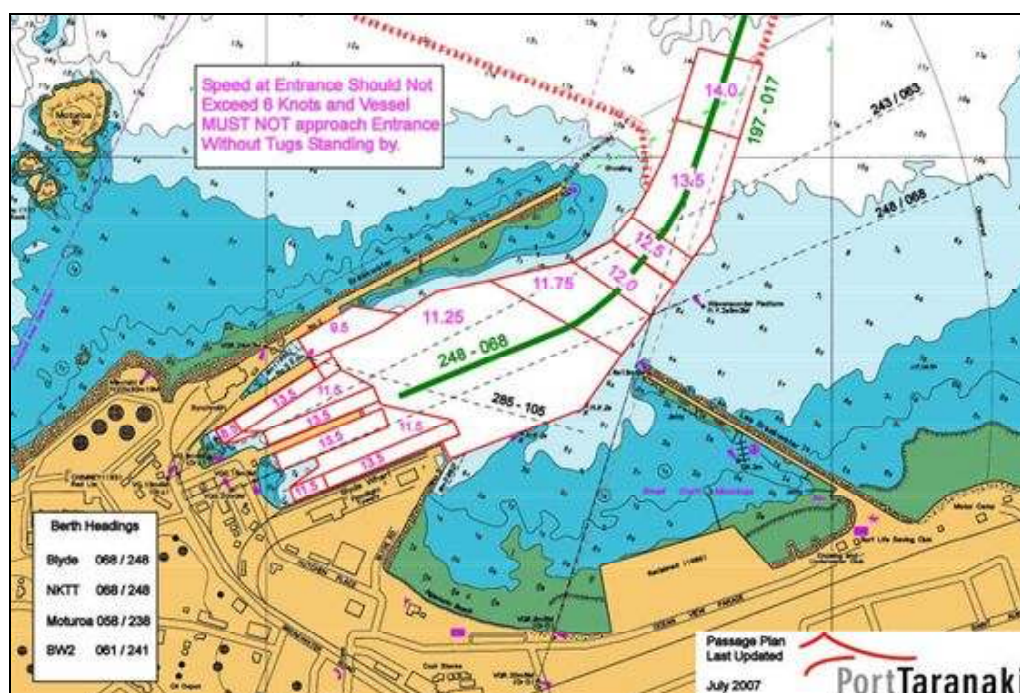
4.2.2 Harbour description

Port Description

The approach by sea to Port Taranaki is safe and easily navigable, with an open roadstead where anchorage may be found in 18-22 metres of water beyond Harbour limits. Inside the Harbour the approach fairways provide a swinging basin of up to 400 metres. Vessels can be berthed in most weathers.

Harbour Depths

On completion of capital dredging in May 2007, the minimum water depths in the Harbour are as described in pink in the chartlet below:



The following vessel draft restrictions apply.

DRAFT	TRANSIT LIMITS
Up to 9.0m	May transit at any time
9.0m - 10.0m	Requires height of tide equivalent to DRAFT minus 9.0m by completion of manoeuvre
10.0m - 12.5m	Transits may only be undertaken under the DUKC system

Tidal range is 1.7 to 3.9 metres. Harbour soundings are regularly checked by the Port Hydrographer.

The 2007 capital dredging has deepened all areas of the harbour navigable by commercial vessels. Certain swell conditions in the approaches to the Harbour can reduce the allowable draft in that area to below the allowable draft within the Harbour. This condition would only occur on vessels exceeding 10 metres draft and is taken into consideration when using the Dynamic Under Keel Clearance (DUKC) programme.

Berth details

Berth	Max Vessel Size (m)			Nominal Height of all Wharves Above MHWS is 2.1 m
	LOA	Beam	Draft	
Breakwater #1	78	20.0	6.5	
Breakwater #2	150	25.0	9.0	
Moturoa #1	98	20.0	7.5	
Moturoa #2	196	32.3	12.5	
Moturoa #3	75	20.0	5.5	
Newton King #1	211	35.0	12.5	
Newton King #2	211	35.0	12.5	
Blyde #1	225	32.3	10.5	
Blyde #2	225	32.3	12.5	
Blyde #3	78	20.0	6.5	

Vessels are normally turned and berthed head to sea.

Vessels are boarded once berthed by two Port Taranaki mooring staff who assist in handling the shore moorings.

Developments in mooring techniques have led to the introduction of a hydraulic mooring system ships secured fore and aft. The "ShoreTension" hydraulic system dramatically reduces ship surge during long period wave activity.

Aids to Navigation

The following aids to navigation are provided:

PORT APPROACH LIGHTS	
Mikotahi Lt	Fl (2)5s 30m 10M
Main Breakwater	Fl G 2s 13m 10M
Lee Breakwater	Q (4) R 6s 13m 5M
Waverecorder Platform	Fl Y 2s 9m 3M
TRANSIT LIGHTS	
Main Lead Lts x 2	VQ R 8m 12M
Moturoa Basin x 2	VQ 13m 4M
Blyde Basin x 2	VQ G 20m 3M
Turning Lts x 2	VQ R 3M
All transit lights have orange triangle day marks	
New Plymouth Harbour Radio	(See Section 2.4.3 of this document)

Harbour Areas

The Port and Harbour has been divided into areas of marine activity. The areas have been selected as having principally different marine activities and risk types within them.

Area A - Offshore

This area covers the approaches to the Port and has unrestricted sea room, mostly in excess of 13 metres. Volcanic islands lie to the west of the area and are surrounded by rocky outcrops. An anchorage area is recommended and marked on the chart. The holding ground is generally satisfactory but open to westerly and onshore winds.

Area B - Entrance

The Port entrance is a confined area of water bounded by shallows on both sides and is the only channel into and out of the Port.

Area C - Basin

The basin is protected from sea and swell by the Main Breakwater but remains open to the affects of wind. It is bounded to the north and south by shallow water. Most ships swing through 180 degrees in the basin before manoeuvring to their berths. This is always performed with tug assistance.

Area D - Berths

This area presents specific hazards when vessels manoeuvre closes the berths when arriving and departing. There are draft restrictions in the berth pockets which are closed at their inner ends. Under the Council navigation bylaws access into this area by non-Port related vessels is prohibited.

Area E - Inshore

The inshore area shallows to the sandy beaches. No commercial shipping enters the area due to the depth of water, but all the leisure activities take place here.

There are swinging moorings and a small marina in the east of the area with a boat ramp at the root of the Lee Breakwater.

4.2.3 Vessel movements

The current average commercial vessel movement is between 400 and 500 vessel movement over a twelve-month period. The number of recreational vessel movements per year is estimated at 4,000. The Port and Harbour is divided into areas for indications of levels of risk. Figure 6 shows how the area is divided. Figure 7 is an aerial photograph of Port Taranaki in 2012.

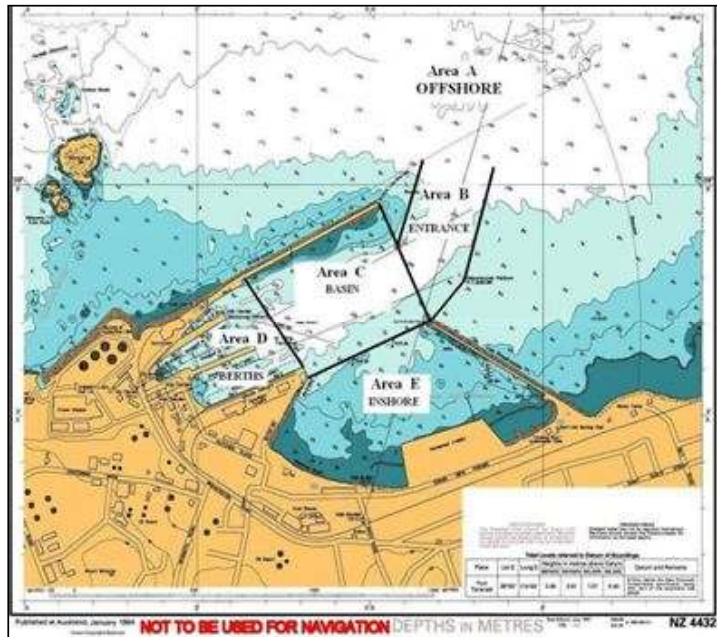


Figure 6: Chartlet of Port Taranaki identifying the different areas of risk



Figure 7: Port Taranaki in 2012

Risk assessment for the port and harbour is continuously under review. Up-to-date details can be obtained from the RISK MANAGER programme as and when required. However, for the purpose of developing the SMS, the identified risks have been assessed. The risk assessment process systemically identifies the hazards and consequences which may occur,

or arise from, the activities in the harbour. The scope is comprehensive and includes navigational, geographical, weather, operational and vessel related activities.

The purpose is to assess the risk of a given hazard developing its potential for harm, in terms of consequences to life, property, the environment or Harbour stakeholders. Existing and additional risk control measures are then identified in order to bring the risk to a condition known as 'So Far as is Reasonably Practicable' (SFARP). **The Risk Severity Matrix is presented in Appendix I.**

An initial meeting of port recreational navigation and safety stakeholders was held on 28 June 2005, and risks were identified and included in the Risk Management system. There are regular meetings with stakeholders to identify any new risks.

4.2.4 Historical incident data

Historical incident data of reported incidents within Port Taranaki and its approaches, are in the following categories:

- Moorings parting;
- Groundings;
- Collision;
- Mechanical Failure;
- Pilot Ladder Deficiencies;
- Heaving line Deficiencies; and
- Near collisions.

Moorings Parting

The berths in the Port are susceptible to vessels surging in conditions of long period wave activity. Studies have been carried out to identify the weather conditions where long period waves might be expected, resulting in an ability to forecast the onset of the swell conditions which cause surge at the berths.

The Shore Tension hydraulic mooring system was introduced in June 2015 to mitigate the risk of ships' moorings parting. The system allows mooring arrangements to be monitored and adjusted, with weather forecasting ability, to configure an appropriate mooring arrangement for each ship on berthing. The PTL Document Control System records this.

Grounding

Groundings are infrequent. The most recent reported grounding was of a recreational vessel boat foundering on the Breakwater in 2005.

Collision

Collisions are infrequent. The most recent incident occurred during berthing operations of a local commercial fishing boat that made contact with a Port Operator boat causing minimal damage.

Mechanical Failures

This groups mechanical failures in ships under pilotage conditions in the Harbour. These are generally failures of the main engine to fail when under way. They are all reported to Maritime NZ as ship deficiencies.

Pilot Ladder Deficiencies

These incidents are due to the incorrect rigging of the pilot ladder. Pilot ladders and the associated equipment come under SOLAS Regulations as part of the ships' safety equipment. Deficiencies are reported to Maritime NZ.

Heaving Line Deficiencies

For safety reasons ships are required to use weighted heaving lines to connect the tug tow line to the ship. This requirement is explained to the master by the Pilot but has been known to be ignored.

Near Collisions

Incidents that involved pleasure craft with no damage/injury and took place outside the commercial area of Port Taranaki.

4.2.5 Methodology

Data Collection – Meetings

As part of the preparation for the production of the first document and hazard identification, the Council invited stakeholders to a meeting to introduce and discuss the Code. A draft *Port and Harbour Safety Management System* was provided to stakeholders and the hazard list considered. It was noted Port Taranaki staff had put the list together and that it was based on many years' experience of commercial and recreational use of the Port. The local Harbour users assessed the hazards as part of this process and the relevant matters arising from the meeting have been included into this document.

The following stakeholders were invited for the initial consultation on the draft report in 2007. They all have either leisure or commercial interests in the safe operation of the Port and Harbour:

Shipping Agents:	Ship Operators:
Cape shipping	Swire Pacific Ltd
Pheonix Shipping	Silver Fern Shipping
Hookers Shipping	Holcim (New Zealand) Ltd
Quadrant Pacific	Golden Bay Cement
Wilhelmsen	
ISS-McKay Ltd	

Local Harbour Users:	
Fishey Business Charters	Surf Lifesaving Taranaki
Caroden Charters	Canoe & Kayaking
Team Tasman Charters	Department of Conservation
Ultimate Fishing Adventures	Ministry Of Fisheries
Taranaki Fishing Charters	Coastguard Taranaki
New Plymouth Underwater Ltd	New Plymouth Yacht Club
Jet Ski Club West Coast	Taranaki Commercial Fishermen Association
Chaddy's Charters	New Plymouth Sport Fishing and Underwater Club

The New Plymouth Maritime NZ officer was also consulted.

On-going communications with all stakeholders will continue through regular meetings.

Further consultations have been taking place since 2016 to reflect the changes to this Manual.

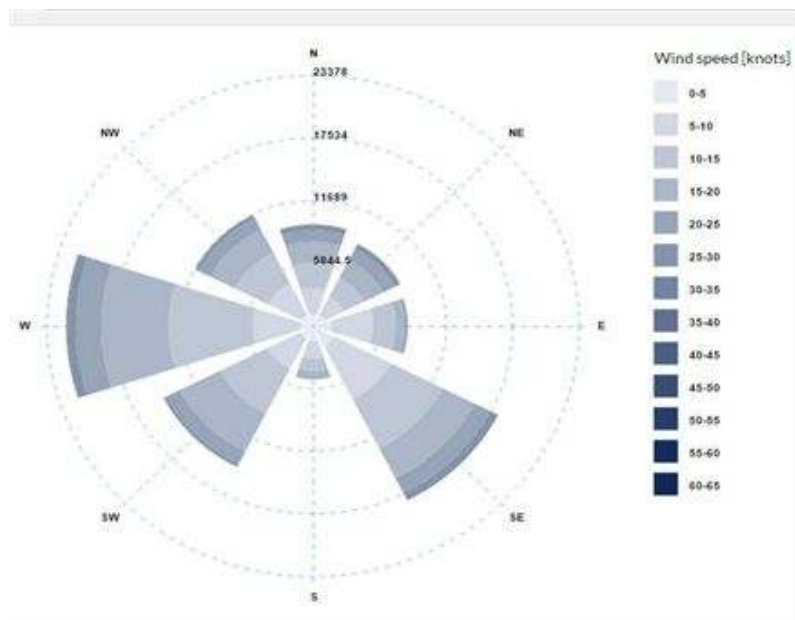
4.2.6 Key hazard Issues

The main hazard which affects every day operation in the port and harbour area is attributable to weather. Otherwise, the physical limitations of water depth and usable water area are described in detail in the Port Guide, available on the Port Taranaki website. Long, powerful swells from the south west generated in the Southern Ocean combined with strong west and south west winds can create very rough seas in the approaches to the Harbour. This can make pilot transfer hazardous.

A prevailing swell from the south west or west swings around the end of the Main Breakwater and, as it enters the shallow water, creates surge conditions in the harbour basin and at the berths. This can cause difficulties for tug operation during close manoeuvring alongside ships and when towing, increase the likelihood of snatch loading on the tow line.

Swell conditions can last for several days, even when the wind comes from a different direction.

The Harbour entrance is open to the north, so any north or north easterly swell has a clear run into the harbour and can create the same difficulties as above. However, this swell is not sustained once the wind direction changes.



The Wind Rose 2015-2016

The most common wind direction is from the south west. These winds can blow to over 40 knots and often change direction and force rapidly being affected by the local topography. Pilots and vessel operators should be aware of these local conditions and be prepared to allow for them in their manoeuvring.

Wind data is collected from the outer end of the lee breakwater and swell and tidal height is monitored at the wave tower just north of the lee breakwater. All monitoring equipment and data processing programs are owned by Port Taranaki. The data is made available for public use on the Port Taranaki website.

4.2.7 Risk Controls

The current Risk Controls which are in place have evolved over many years. The very low incident rate indicates that these controls have been effective. It should be noted however that the controls, of which the PTL Document Control System forms the major part, have been amended and reviewed periodically, particularly when near incidents are reported.

4.2.7.1 Pilotage

Pilotage is the fundamental risk control for the safety of navigation in the Port. It is therefore worth describing in detail the pilotage requirements on vessels. It should be noted that the Harbourmaster has the authority to vary the pilotage requirements of specific vessels by Special Direction on the consideration of safety.

The following is an extract from the Port Taranaki "Harbourmaster's General Directions":

4.2.7.2 Pilotage Area

1.2 Compulsory Pilotage

All vessels of more than 100 gross tons when under way are subject to compulsory pilotage within the Port Taranaki Pilotage Area. (Underway is defined as being not at anchor, made fast to the shore or aground).

1.3 Pilotage Boarding and Disembarking Areas

1.3.1 In Bound Vessel: 3 miles north of the end of the Main Breakwater Light.

1.3.2 Out Bound Vessels: To seaward of the line of the end of the Main Breakwater.

1.4 Pilotage Exempt Vessel:

Vessels are exempt from Compulsory Pilotage under the following conditions:

- Inward bound vessels entering the port limits proceeding to an anchorage;
- Inward bound vessels which are directed by the Pilot to proceed closer than 3 miles to facilitate a safe boarding; and
- Outbound vessels leaving the anchorage for sea.

Pilotage Exemption Certificates are available for masters for vessels of 100gt or more, less than 100m LOA and less than 7.5m draft and not carrying bulk hydrocarbon or inflammable liquid cargos. The pilot candidates are examined by the Harbourmaster and are licensed by Maritime NZ.

The pilotage requirements for Port Taranaki have been set with consideration being given to the proximity of small islands and semi-submerged rocks within the Port limits and the limited manoeuvring area within the Port. The current lower limit of 100gt is considered appropriate having regard to the above and to ensure all significant vessel movements are adequately controlled given the limited manoeuvring room available and proximity to petroleum/petrochemical tankers and LPG carriers. This is recognised in the risk assessment.

4.2.7.3 Tugs and Towage

The principle Risk Control Equipment in the Port is the use of tugs. Tug availability and usage is described in the PTL Controlled Documents.

4.2.7.4 Weather Monitoring

Weather is constantly monitored through Met Ocean Forecast Services specifically for Port Taranaki. This forecast is sufficiently accurate to give warning of port closure up to 72 hours in advance of closure.

4.2.7.5 Traffic Control

Vessel traffic movements are coordinated by the Pilot and controlled through New Plymouth Harbour Radio. In general no more than one vessel is permitted to move at a time.

Radio communications for vessel traffic control are made through VHF Channel 11 or 12. Full details are set out in the Port Taranaki website.

4.2.7.6 Harbour Bylaws

The Harbour Bylaws serve to regulate use of the harbour where there are several categories of users, each with unique requirements for water space in the Harbour. The Bylaws designate areas for specific use of the Harbour as well regulate vessel speed in certain areas to manage navigation and safety risks.

4.2.8 Ranked Hazard list report

OVERALL RISK DEFINITIONS	
25 - 20	Negligible Risk LOW
19 - 12	Moderate Risk MEDIUM
10 - 7	The extent of the ALARP range HIGH
6 - 1	Heightened Risk EXTREME

The RISK MANAGER programme provides a ranked Hazard List Report. This list can be sorted by initial or residual risk to show the effectiveness of the controls for each hazard. The highest ranked hazards are in the red EXTREME range as shown in the table above. The goal is for the risk of all hazards to be lowered “So Far As is Reasonably Practical” (SFARP). Each year a selection of the highest ranked hazards are selected and further improvements are planned to reduce and maintain the risks at a SFARP level. The ongoing aim is to reduce the risk levels of all hazards by improving the relevant controls to eliminate or minimise the hazard.

All newly reported hazards will be analysed and associated risks managed by appropriate controls.

4.2.9 Analysis of the Ranked Hazards

An analysis of the ranked hazards is provided in the **Appendix II “Hazard Register - by Reporting Line”**.

4.2.10 Planned risk management projects

The following are the planned risk management projects that arise from commercial operation at the Port for the immediate future:

- Update of the charts for the area⁴;
- Professional development for pilot training on Port Taranaki specific ship simulator (Port Ash, Australia);
- Risk analysis of tug requirements for future ships with deeper drafts and increased windage;
- Continued investigation into infra gravity swell causing surge conditions at the berths and possible unexpected reductions in water depth by outside contractors. The aim is to be able to better understand the effects of these conditions on the safe passage and manoeuvring of vessels in the port, and the integrity of mooring arrangements for ships alongside;
- The installation of AIS vessel monitoring equipment to assist with traffic management; and
- The full implementation of the Shore Tension mooring system.

The approach is part of a continual improvement programme and has obvious risk management benefits.

4.2.11 Risk review

Risk monitoring and review is a continuous process, and Port Taranaki shall ensure that its risk priorities and risk management system are responsive to the changing environment in which it operates.

4.3 Port and Harbour Safety Plan

The RISK MANAGER forms the basis of the Port and Harbour Safety Plan. It describes the hazards, risk and the way in which each risk has controls allocated to it and the way in which these controls are managed and by whom.

4.4 Rolling SMS Action Plan

To ensure the effectiveness of the SMS, the Harbourmaster and the Port Operator shall adhere to the following objectives:

- To ensure all reasonable practicable steps are taken to identify the hazards and risks arising from operational activities;
- To record steps taken to identify hazards and risks arising from operational activities, including meetings with stakeholders;
- To reduce risks to as low as is reasonably practicable;
- To continually monitor compliance with the policies and procedures contained in the Port Taranaki and Harbour SMS Manual;
- To ensure conformance with applicable Port and maritime legislation, the Port or Harbour's navigation safety and marine policies and associated operating procedures;
- To periodically review data gathered from audits, inspections, incidents and any concerns raised to evaluate and determine where improvements and changes need to be made;
- Navigation and Safety Bylaw renewed in 2009; and
- to implement employee competence training and SMS awareness programmes.

⁴ Refer to Land Information New Zealand Hydrographic Plan (HYPLAN) 2016

5. Risk management systems

This section outlines the operating procedures and standard working practices currently in place in the Port and Harbour to control and minimise risk in marine operations.

5.1 RISK MANAGER

This is a Port Taranaki company-wide management tool incorporating Event Reporting, Hazard Reporting, Training, Analysis and Management for all activities in the Port area including marine hazards.

5.2 PTL Controlled Documents

Port Taranaki has a number of Controlled Documents that relate to navigation safety within Port Taranaki and its Approaches. These Controlled Documents encompass the benefit of local knowledge, local maritime experience and senior professional maritime experience together with the best practices of international Port operations. Working practices are continuously under scrutiny and the Controlled Documents are adjusted as necessary to accommodate any changes and improvements in operating procedures.

5.3 Emergency response

The Port Taranaki Emergency Response Plan is an all-encompassing plan covering all types of emergencies including natural disasters which may conceivably occur in the Port or may affect the Port. Port Taranaki Tier 1 and Council's Tier 2 Oil Spill Response Plans provide direction from first reporting of an incident and include links to integrate with other bodies responses. These links are in the form of call-out alerts to other appropriate services who activate their own emergency plans.

5.4 Incident and near miss investigations and records

All events are recorded by Port Taranaki within the RISK MANAGER system. All maritime incidents are also recorded and reported to Maritime NZ as required in accordance with the MTA.

6. Importance of training

6.1 Training and induction

Marine Services Controlled Documents detail the training requirements for all sections of Marine Services including pilots, tug masters, deck hands, engineers, launch masters and rope shed operators. All training requirements are in accordance with or exceed the requirements and recommendations in the Maritime Rules.

All personnel are required to undertake induction courses on entry into employment with Port Taranaki and are required to repeat the induction course at two-year intervals thereafter. Strict policies are in place to assess new personnel and ensure qualification and health requirements are met.

Regular ongoing training is undertaken by all personnel in professional and health and safety areas by both internal and external agencies as appropriate. Pilots and tug masters undergo peer reviews every 6 months to ensure that their procedures and skills are maintained at an optimum high level.

7. Audit and review

7.1 Audit

Regular audits of the SMS aim to promote continuous development of the system through independent review and feedback.

Objectives for the audit of the SMS include the following:

- To determine if the SMS is being operated in accordance with the Port and Harbour navigational safety policy and with the provisions of the Code;
- To monitor the overall effectiveness of the SMS;
- To support continuous improvement in navigational safety performance;
- To confirm that SMS procedures are understood and being actioned by those involved; and
- To determine whether the Port and Harbour's marine operations and navigational safety and security procedures remain appropriate and effective, thus comprising effective SMS components.

7.2 Risk assessment data/archive

All risk assessment data is held in the RISK MANAGER data file in Port Taranaki's main computer server. Hazards, risk controls and risk control management are individually reviewed at intervals determined by the consequence rating of the individual hazards and any changes which take place in the operation. This provides a rolling review of all hazards and associated risks with a full review being completed at least annually. The Head of Marine Services and Harbourmaster are responsible for ensuring the maintenance and updating of the RISK MANAGER data files.

7.3 SMS review

The Port Taranaki and Harbour SMS was reviewed after three years (in 2010) and since then has been reviewed every five years as required by Maritime NZ. The review shall be initiated by the Harbourmaster twelve months prior to the due date or after a major safety incident at the Port. Appropriate Port Taranaki staff shall also be involved in the review.

It is acknowledged that the risk profile at the Port will change through time as Port operations also change and that the risk identification and management process will be ongoing.

**Appendix I
Risk Severity Matrix**

		Consequence Criteria					Likelihood Criteria				
		Safety / Health	Environment	Financial	Legal - Reputation	Operations / Customer Service	Rare Less than 1%	Unlikely 1%-10%	Possible 10%-20%	Likely 20%-50%	Almost Certain 50%-100%
Catastrophic	Multiple fatalities and multiple serious injuries.	Persistent severe damage over large area with recovery exceeding 5 years.	More than \$25m (million) on balance sheet or >25% EBITDA (\$5m) or loss of gross profit >\$7.5m	Significant prosecution and fines. Very serious litigation. Major, extended adverse national media campaign. Loss of stakeholder support.	Widespread operational impact and effect on service delivery. Impact threatens the immediate viability of the organisation.	High 7	Extreme 4	Extreme 3	Extreme 2	Extreme 1	
	1 to 3 fatalities or permanent total disability. Repeat health exposures with major long term consequences.	Severe damage with recovery exceeding 2 years.	Between \$10m and \$25m on balance sheet or >10% EBITDA (\$2m) or loss of gross profit between \$4m and \$7.5m	Major breach of regulation. Major litigation. Significant long-term loss of company's reputation from national media/public. Reduced support from stakeholders.	Major operational impact and effect on service delivery Impact threatens the viability of the organisation	Medium 12	High 9	High 8	Extreme 6	Extreme 5	
	Injury reported as Lost Time Injury (LTI). One-off health exposure with long term consequences or repeat health exposures with minor long term consequences.	Damage recovery within 1 year.	Between \$2m and \$10m on balance sheet or >5% EBITDA (\$1m) or loss of gross profit between \$1m and \$4m	Significant breach of regulation. Adverse national media coverage. Widespread complaints – public and community organisations Major stakeholder concern.	Significant operational impact and effect on service delivery. Impact on multiple area of the organisation.	Low 20	Medium 14	Medium 13	High 11	High 10	
Major											
Moderate											

Policy and Planning Committee - Review and approval of Port Safety Management System and navigation update

Tolerable	Injury reported as Medical Treatment Injury (MTI) or Restricted Work Case (RWC). One-off health exposure with short term consequences.	Damage without permanent effects	Between \$100k and \$2m on balance sheet or >1.5% EBITDA (\$300k) or loss of gross profit between \$100k and \$1m	Moderate legal issues, non-compliances and breaches of regulation. Minor, adverse local public or media attention. Localised complaints – small groups or communities.	Moderate operational impact and effect on service delivery. Impact limited to a single area of the organisation.	Low 22	Low 21	Medium 17	Medium 16	Medium 15
Insignificant	Injury reported as first aid case (FAC), minor illness. Minor health exposure with no consequences.	Local environmental damage.	Less than \$100k on balance sheet or >1% EBITDA (\$200k) or loss of gross profit <\$100k	Negligible non-compliances and breaches of regulation. Small, short term damage to reputation resulting from limited negative local publicity. Isolated public complaints.	No measurable operational impact to the business	Low 25	Low 24	Low 23	Medium 19	Medium 18

Likelihood Criteria





Likelihood	Rare	Unlikely	Possible	Likely	Almost certain
Time based	May occur only in exceptional circumstances. Theoretically possible but not expected to occur. Never heard of in this industry. Occurs once in 100 years or more.	Could occur at some time but would require remotely possible coincidences. Something like this event has been heard of elsewhere. Occurs once in 50-100 years	Might occur at some time. Possible sequence of coincidence is unusual. The event might occur once in your career. Occurs once in 10-50 years	Will probably occur in most circumstances. Not unusual. Occurs once in every 2 to 5 years. The event has occurred several times in your career. Occurs once in every 2-5 years	Is expected to occur in most circumstances. The most likely and expected result if the chosen sequence or scenario takes place. Occurs more often than once in two years or is almost constant. Once a year or more frequently
Error Rate	Mistake made once in every 10,000 activities.	Mistake made once in every 1,000 activities.	Mistake made once in every 100 activities.	Mistake made once in every 10 activities.	Mistake made once in every 2 activities.
Qualitative (may apply to projects)	May occur only in exceptional circumstances	Could occur at some time but would require remotely possible coincidences	Might occur at some time Chosen sequence or coincidence unusual	Will probably occur in most circumstances	The most likely and expected result if the chosen sequence or scenario takes place
Return period for damage due to a natural hazard to part, unit, subsystem or system	Once in about 3000 years.	Once in about 500 years.	Once in about 150 years.	Once in about 50 years.	Once a year or more frequently.



Appendix II








Hazard Register - by Reporting Line


<u>Risk Category:</u>		<u>Risk Sub Category:</u>	
<p>ID: 35143 Critical Hazard? Yes</p>	<p>Hazard Title: (PHSC) Swimmers in Inner Harbour Business Unit: Marine</p>	<p>Control Hierarchies: Engineer or Isolate, Administration</p>	
<p>Review Frequency: 12 Months</p>	<p>Site: Inner Harbour Specific Location: Unassigned</p>	<p>Initial Risk Rating: 2. Medium</p>	<p>Residual Risk Rating: 2. Medium</p>
<p>Next Review Date: 16 Jul 2020 Person Responsible: Guy Roper</p>	<p>Hazard Description Who can be harmed? Members of the Public How can they be harmed? Struck by vessel underway.</p>	<p>Hazard Controls Eliminate or Substitute: Nil- swimmers are members of the public and there are no restrictions on their access to the harbour. Engineer or Isolate: PTL has a reserved area for commercial use. The public is not permitted entry into this area (isolation). Administration: PTL are notified/consulted of all events utilising Ngamotu beach and the harbour for swimming. Permission must be sought to allow these events to occur. Navigational Bylaws require Harbour Master approval for harbour events. Speed limit within harbour mitigates risk to swimmers. Designated inshore area for harbour management. Personal Protective and Safety Equipment: N/A</p>	
<p>ID: 24083 Critical Hazard? Yes</p>	<p>Hazard Title: (PHSC) Working/driving while fatigued due to lack of sleep Business Unit:</p>	<p>Control Hierarchies: Administration</p>	

<p>Review Frequency: 12 Months</p>	<p>Site: General Port Area Specific Location: Health</p>	<p>Initial Risk Rating: 3. High</p>		<p>Residual Risk Rating: 3. High</p>	
<p>Next Review Date: 1 Jul 2019</p> <p>Person Responsible: Christine Northcott</p>	<p>Hazard Description Who can be harmed? All staff who work shifts, specifically those working night shifts. This includes security staff, all marine personnel, Duty Engineers, Duty Superintendents and some cargo staff in specific instances.</p> <p>How can they be harmed? Falling asleep or failing to complete a task safely and causing injury. Also, long term health effects associated with insufficient sleep or upsetting shift patterns.</p>	<p>Hazard Controls Eliminate or Substitute: N/A- the Port is a 24/7 operation and requires staff from various departments to be available outside of normal working hours.</p> <p>Engineer or Isolate: Nil</p> <p>Administration: PRO-0194 'Fatigue Procedure' has been developed in consultation with staff and is published in the controlled documents system. The hazard of fatigue and the procedure mentioned above is discussed in the induction process, employees are encouraged to notify their supervisor if they are concerned about becoming fatigued during long work periods.</p> <p>Personal Protective and Safety Equipment: Nil</p>			
<p>Local Controls Marine: Marine Operations: IMO Fatigue Guidelines to be followed. no more than 14 hours of work in any 24h period with 10h of rest, of which the shortest rest period is 6h. Delegate helming/watch duties while in operation</p>					
<p>ID: 26418 Critical Hazard? Yes</p>	<p>Hazard Title: (PHSC) Pilotage in poor visibility or navigation aid failure Business Unit: Marine: Pilots</p>	<p>Control Hierarchies: Eliminate, Administration, Engineer or Isolate</p>			
<p>Review Frequency: 12 Months</p>	<p>Site: Vessels Specific Location: Unassigned</p>	<p>Initial Risk Rating: 4. Extreme</p>		<p>Residual Risk Rating: 3. High</p>	
<p>Next Review Date: 1 Jul 2019</p> <p>Person</p>	<p>Hazard Description Who can be harmed? Any person working within the port, operating any other vessel in or near the port and any person working on wharves.</p>	<p>Hazard Controls Eliminate or Substitute: Visibility is assessed by the Pilot during the pre-planning process and by on-going observation and weather review. The pilotage is postponed during periods of poor visibility eliminating the hazard.</p>			





<p>Responsible: Guy Roper</p>	<p>Possible collision/grounding (potential to lead to environmental event).</p> <p>How can they be harmed? If navigational aids cannot be seen or used possibility to ground vessel, collide with other vessels in the area, collide with wharf structures. Potential to damage vessel and cause large environmental event. Potential catastrophic event.</p>	<p>Engineer or Isolate: Aids to navigation within the port to mitigate the visibility issue. These allow us to undertake operations in moderate to poor conditions. Vessel systems (e.g. radar, siren, AIS, ECDIS) assist with navigation.</p> <p>Administration: Operations are controlled in restricted visibility as per the Regulations for Preventing Collisions at Sea, 1972. Local approach charts are used. NZ 4432</p> <p>Personal Protective and Safety Equipment: Personal Pilotage Units are carried to provide real-time feedback of pilotage operation. Used in conjunction with the Ships own equipment (radar, ECDIS etc). This method is not to be used as a sole means of navigation.</p>			
<p>ID: 26419 Critical Hazard? Yes</p>	<p>Hazard Title: (PHSC) Pilotage with vessel emergency underway Business Unit: Marine: Pilots</p>	<p>Control Hierarchies: Administration, Engineer or Isolate, Personal Protective and Safety Equipment</p>			
<p>Review Frequency: 12 Months</p>	<p>Site: Vessels Specific Location: Unassigned</p>	<p>Initial Risk Rating: 4. Extreme</p>		<p>Residual Risk Rating: 3. High</p>	
<p>Next Review Date: 1 Jul 2019</p> <p>Person Responsible: Guy Roper</p>	<p>Hazard Description Who can be harmed? Any person working within the port, operating any other vessel in or near the port and any person working on wharves.</p> <p>How can they be harmed? If an emergency is occurring on board during pilotage (such as fire, toxic gas leak, major equipment failure) possibility to ground vessel, collide with other vessels in the area, collide with wharf structures. Potential to damage vessel and cause large environmental event. Potential catastrophic event.</p>	<p>Hazard Controls Eliminate or Substitute: Pilots are able to abort the pilotage prior to committing to the harbour entrance.</p> <p>Engineer or Isolate: Pilot trained to navigate vessel to a safe area thus isolating the risk from Port operations minimising the consequences.</p> <p>Tugs available and connected early (at harbour entrance) to facilitate manoeuvring and berthing in the event of loss of main propulsion/steering. Tugs are fitted with firefighting equipment.</p> <p>Administration: Licenced Pilots facilitate harbour passage for all vessels 100GT or greater. On-going Pilot training and professional development. Emergency response procedures (PRO-0051) to be initiated.</p> <p>Personal Protective and Safety Equipment: Safety equipment on-board all vessels as per</p>			

		Maritime Rules Part 42B: Safety Equipment – Fire Appliances Performance Standards		
ID: 26416 Critical Hazard? Yes	Hazard Title: (PHSC) Berthing large vessels within the Port Business Unit: Marine	Control Hierarchies: Engineer or Isolate, Administration		
Review Frequency: 12 Months	Site: Vessels Specific Location: Unassigned	Initial Risk Rating: 4. Extreme		Residual Risk Rating: 2. Medium 
Next Review Date: 1 Jul 2019 Person Responsible: Guy Roper	Hazard Description Who can be harmed? Any occupants of the vessels, or Port vessels and staff assisting, or persons working on the wharves. Also possible asset damage to the wharves and vessels. Vessels may be regular, infrequent, new to the Port or unusual (survey vessels, floating rigs etc). How can they be harmed? Loss of control of the vessel or weather/sea conditions could cause a vessel collision with the wharf, other vessels or for the vessel to become grounded in one of the basins. Catastrophic event especially if the wharf struck is NKTT.	Hazard Controls Eliminate or Substitute: Nil - Operational function of the business Engineer or Isolate: All personnel not involved with the operation are restricted from the wharf during the berthing operation. Communicated as part of the Port Induction. Wharves are engineering designed and fenders buffer the impact of any vessel as it meets the wharf. Administration: Rope shed staff on the wharf to inform others of the hazard. Pilot Boat available to ensure no obstructions (Flotsam or recreational craft) will endanger the operation. Licenced Pilots on board all vessels over 100GT to conduct the vessel. Weather parameters in place (wind/tide/seas/LPW) and vessels exclusions in place so berthing activities only take place within certain weather parameters. Personal Protective and Safety Equipment: PPU used to anticipate future movements of vessel and track the vessel berthing within the harbour. PPU carried by Pilots.		
ID: 24161 Critical Hazard? Yes	Hazard Title: (PHSC) Miscellaneous items floating in harbour Business Unit: Marine	Control Hierarchies: Eliminate, Administration		
Review Frequency: 12 Months	Site: Inner Harbour Specific Location: Safety	Initial Risk Rating: 2. Medium		Residual Risk Rating: 1. Low 





<p>Next Review Date: 1 Jul 2020</p> <p>Person Responsible: Guy Roper</p>	<p>Hazard Description Who can be harmed? Any person operating a vessel in the harbour, potential for damage to vessels underway in the harbour and vessels moored to swing moorings (subsequently resulting in injuries to people).</p> <p>How can they be harmed? Item striking vessel hull or underwater parts.</p>	<p>Hazard Controls Eliminate or Substitute: Regular meetings with stevedoring companies to ensure that processes and procedures for loading logs as cargo are complied with- to eliminate the risk of logs entering the harbour. Items removed once identified to eliminate the hazard (in the case of logs this is the stevedores responsibility).</p> <p>Engineer or Isolate: Where identified (and not able to be recovered by Stevedore) protocols are in place for PTL to be notified and tie-off or retrieve log from water at stevedore's expense (to isolate the hazard from floating plant).</p> <p>Administration: SOP's exist for log/flotsam removal; speed restriction (within 200m from shore) of 5 knots in place as directed by MNZ Rules (Rule 91) and Navigation Safety Bylaws (this restriction on speed mitigates potential outcomes for vessels striking objects and reduces the risk contact will occur as the lower speed allows for items to be identified).</p> <p>Personal Protective and Safety Equipment: Nil</p>		
<p>ID: 24087 Critical Hazard? Yes</p>	<p>Hazard Title: (PHSC) Transfer of personnel at sea from vessel to vessel Business Unit: Marine</p>	<p>Control Hierarchies: Administration, Personal Protective and Safety Equipment</p>		
<p>Review Frequency: 12 Months</p>	<p>Site: Vessels Specific Location: Safety</p>	<p>Initial Risk Rating: 3. High</p>	<p>Residual Risk Rating: 2. Medium</p>	
<p>Next Review Date: 1 Jul 2019</p> <p>Person Responsible: Guy Roper</p>	<p>Hazard Description Who can be harmed? Pilots, moorings staff and other ships crew who are required to transfer to/from a large vessel to the Pilot Launch.</p> <p>How can they be harmed? Crush injuries/fatality if person transferring is in the area where the two vessels come into contact with one another. Possibility for personnel to fall from the</p>	<p>Hazard Controls Eliminate or Substitute: Nil- Required to be a Pilotage District under Maritime New Zealand regulations. NOTE: in instances where the Pilot deems the ladder unsuitable or where the ladder does not meet IMO standards, the Pilot can abort the boarding. Also, where the weather/sea conditions become such that boarding becomes hazardous the Pilot or Launch Master can abort the transfer.</p> <p>Engineer or Isolate: The structures on the launch are engineered to allow the person transferring to be tied off to the launch.</p>		

	<p>ladder while transferring causing injury or fatality. Ladder failure.</p>	<p>Administration: TOPAS training and procedure. Pilot boat built to IMO Pilotage Standards. Trained and competent Launch Staff. recording capability to review transfers as required. PRO-0123 L7-Launch safety stipulates the maximum matrix of permissible operations for all launch activities including TOPAS.</p> <p>Personal Protective and Safety Equipment: PFD worn outside the Cockpit and lanyard attached for transits around the deck.</p>		
<p>Local Controls</p> <p>Marine: Marine Operations: Only those that have hold a valid TOPAS may transfer Launch - vessel. If vessel to Launch the grab bag must be sent up giving the transferee instructions on safe transfer and required safety equipment - Closed in Shoes and PFD</p>				
<p>ID: 26415 Critical Hazard? Yes</p>	<p>Hazard Title: (PHSC) Moored vessels Business Unit: HR, H&S, Operations: Wharf Services</p>	<p>Control Hierarchies: Engineer or Isolate, Administration</p>		
<p>Review Frequency: 12 Months</p>	<p>Site: General Port Area Specific Location: Unassigned</p>	<p>Initial Risk Rating: 4. Extreme</p>		<p>Residual Risk Rating: 3. High</p>
<p>Next Review Date: 1 Jul 2019</p> <p>Person Responsible: Guy Roper</p>	<p>Hazard Description</p> <p>Who can be harmed? Any person on-board a vessel in the Port or working on the wharves within the Port.</p> <p>How can they be harmed? For a serious incident to occur the 'shore' lines (PTL) and the ships lines would both need to fail. Where ships lines only are used, the secondary control of shore lines is not present. Potential for significant wharf and vessel damage (see bowtie in notes and documents for full information). This could be due to the following causes: -Mooring line failure causing vessel to break</p>	<p>Hazard Controls</p> <p>Eliminate or Substitute: Nil: Vessels required to be moored during cargo operations to enable safe transfer of cargo. NOTE: where poor quality ship berthing lines are identified by the Pilot during berthing the ship can be ordered to sail to rectify berthing line issues.</p> <p>Engineer or Isolate: Electronic and manually monitored Shore Tension mooring system used to supplement traditional mooring arrangements to minimise the likelihood of a mooring failure. Alerts are sent from the telemetry if units are reaching their limits. Shore tension unit's tonnage is set lower than the SWL of the bollards. Ships bits have a SWL displayed and declare this SWL on the VAIS form.</p> <p>Administration: Mooring SOP's dictate extra arrangements (eg extra moorings, anchors, and/or conventional moorings) to overcome any expected abnormal weather event. SWL of mooring components and lines known.</p>		

	<p>free of mooring or be only secure at one end due to equipment being worked outside its SWL, poor quality berthing lines, damaged/ worn berthing lines, incorrectly configured lines, fouled berthing lines, extreme weather or fires on board or ashore burning through lines.</p> <p>-Bollard failure due to failure of bollard bolts, failure of the wharf structure or the bollard cracking or failing.</p> <p>-Shore tension ram failure (hydraulic seal leak) due to lack of/incorrect maintenance/monitoring, metal fatigue/corrosion, the shore tension unit being dropped or the unit being struck.</p> <p>-Shore side mooring equipment tampered with as an act of sabotage.</p> <p>-Ship's crew tamper with vessel end of moorings due to lack of crew understanding of shore tension or being directed by the Master/Captain.</p> <p>-Failure of ships bits due to being lower SWL than tonnage applied or bits being in poor condition.</p> <p>-Ships lines parting due to lines being untended, incorrect line selection or set up, ships lines in poor condition, extreme weather.</p>	<p>Wharf Services team visually inspect the mooring components as they moor each vessel. Wharf services staff are trained using competency booklets to ensure they understand the components and how to set shore tension units up.</p> <p>Access onto wharves is restricted (communicated in induction) to minimise the risk of the units being struck. Units are also positioned out of cargo loading areas to minimise the risk of being struck.</p> <p>On call staff are available within 30 minutes of a call out. During periods of extreme weather the on duty staff can be requested to be on standby.</p> <p>Pilots monitor weather conditions daily and have limitations for vessels alongside depending on LPW conditions. Pilots can also request extra lines be put on vessels in poor weather.</p> <p>Bollards, bolts, shore tension units and wharves are inspected on PMs from Maximo.</p> <p>Lifting chains for transporting the units are certified annually. Wharf operators are trained in slinging and lifting as well as hiab and forklift operation.</p> <p>There is a 24/7 security presence on site and cameras operating as well to minimise the risk of sabotage of the shore side equipment. The PTL induction advises all Port Users to stay at least 6m from the shore tension units and all other mooring arrangements when under tension.</p> <p>Pilots ensure Masters understand the use of the shore tension units (displayed on VAIS) and give advice on the set up of the ships lines to work in with the shore tension units.</p> <p><u>Personal Protective and Safety Equipment:</u> Shore tension units are coned off to make them more visible and minimise the risk of being struck.</p>
<p><u>ID:</u> 24172 <u>Critical</u> <u>Hazard?</u> Yes</p>	<p><u>Hazard Title:</u> (PHSC) Manouvering Large Vessels in and out of the Port <u>Business Unit:</u> Marine</p>	<p><u>Control Hierarchies:</u> Engineer or Isolate, Administration</p>

<p>Review Frequency: 12 Months</p>	<p>Site: Vessels Specific Location: Safety</p>	<p>Initial Risk Rating: 4. Extreme</p>		<p>Residual Risk Rating: 3. High</p>	
<p>Next Review Date: 1 Jul 2019</p> <p>Person Responsible: Guy Roper</p>	<p>Hazard Description Who can be harmed? Any occupants of the vessels or persons working on the wharves. Also possible asset damage to the wharves and vessels. Vessels may be regular, infrequent, new to the Port or unusual (survey vessels, floating rigs etc). The environment (in proximity of Marine Reserve/protected area).</p> <p>How can they be harmed? Loss of control of the vessel (caused by various scenarios including vessel equipment failure, engine failure, tug failure, breakdown in BRM) or sea conditions could cause a grounding or vessel collision with the wharf or other vessels. Catastrophic event especially if the wharf struck is NKTT.</p>	<p>Hazard Controls Eliminate or Substitute: Nil; Vessel movements required for port operations.</p> <p>Engineer or Isolate: Port regularly sounded and depths recorded to ensure correct depths available for all vessels. Survey data used to keep charts current. Dynamic Under-keel clearance system used prior to any movement of a vessel with a draught greater than 10m or less than 2.5m UKC. This makes sure that in the worst-case scenario there will be sufficient under-keel depth for the transit. Provision of sufficient Tug power (maintenance, operational skill) relative to weather conditions for the vessel. Harbour aids to navigation (e.g. lead lights, beacons) are in place as per charts to assist with manoeuvre.</p> <p>Administration: Enview realtime weather information fed to marine crews to tailor the passage plan to the conditions. VAIS data gathered from incoming vessel is also used to inform the passage plan. Pilot SOP's; Tug SOP's & Launch SOP's On-going professional training and qualification reviews required under MOSS and MTOP. Ship planning and berthing arrangements published by the Marine Planner. Pilotage Directions (PRO-0235) are published online for viewing by incoming vessels.</p> <p>Personal Protective and Safety Equipment: Pilots Personal Pilotage Units with Pilot for real-time manoeuvring data which shows future status of the manoeuvre given known data.</p>			
<p>ID: 26420 Critical Hazard? Yes</p>	<p>Hazard Title: (PHSC) Emergencies on large vessels while alongside Business Unit: Marine: Pilots</p>	<p>Control Hierarchies: Administration, Engineer or Isolate, Personal Protective and Safety Equipment</p>			
<p>Review Frequency: 12 Months</p>	<p>Site: General Port Area Specific Location: Unassigned</p>	<p>Initial Risk Rating: 4. Extreme</p>		<p>Residual Risk Rating: 3. High</p>	

<p><u>Next Review Date:</u> 1 Jul 2019</p> <p><u>Person Responsible:</u> Guy Roper</p>	<p><u>Hazard Description</u> <u>Who can be harmed?</u> Any person on-board the vessel or in the Port.</p> <p><u>How can they be harmed?</u> Emergencies on board vessel alongside have the potential for vessel damage, significant wharf damage and possible environmental events. The main contributors to an event such as this include: -Hull rupture/loss of water tight integrity due to being struck by another unmoored vessel, being struck by a vessel being berthed or an act of sabotage. -Gas release on board from cargo or fumigant due to overpressure of tanks or lines or unspent fumigant being activated. -Fire or BLEVE due to cargo combustion, electrical fire, galley fire, crew smoking in cabin, hot work aboard the vessel, equipment failure. -Loss of containment or spill from vessel due to failure during hydrocarbon transfer, incorrect storage of hazardous substances, black water discharge or incorrect operation of deck machinery. -Medical emergency on board due to vessel crew injury or vessel crew medical condition. -Public health emergency due to exposure to pandemic conditions at previous ports. For further information about these hazards see the bowtie attached in 'note and documents'.</p>	<p><u>Hazard Controls</u> <u>Eliminate or Substitute:</u> Nil, Vessel emergencies are outside our control.</p> <p><u>Engineer or Isolate:</u> Depending on the event, the Harbour Master can remove the vessel to sea, this would isolate the vessel from the port. Isolation of the wharf area and gangway could be undertaken in the event of an emergency using temporary fencing or the like.</p> <p><u>Administration:</u> Ports and harbour safety code and navigational bylaws/ designated commercial zoning for the port. Training of Pilots to pilot vessels into port without striking other vessels and also to respond to emergencies. ISGOTT guidelines, MPI compliance guidelines, International guidelines for transporting bulk cargo. IMDG Code, SOLAS/ISPP Controls. Declaration of fumigants and dangerous cargo on the VAIS form and assessment by Pilot of fumigated cargo during travel into the harbour. Fire plan available at the top of the gangway on all vessels, common fire water connection available on NKTT. PHEIC plan issues in conjunction with the TDHB. 'First arrival vessels' complete a health declaration and submit this to the TDHB. Yellow flag procedure. Hot work on board is notified to the permit issuer. PRO-0051 contains Port wide emergency advice including pre-plans for vessel emergencies. This includes notification protocols to emergency services.</p> <p><u>Personal Protective and Safety Equipment:</u> Radio communications</p>
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<p>ID: 26414 Critical Hazard? Yes</p>	<p>Hazard Title: (PHSC) Towing large vessels into the Port Business Unit: Marine</p>	<p>Control Hierarchies: Engineer or Isolate, Administration</p>			
<p>Review Frequency: 12 Months</p>	<p>Site: Vessels Specific Location: Unassigned</p>	<p>Initial Risk Rating: 4. Extreme</p>		<p>Residual Risk Rating: 3. High</p>	
<p>Next Review Date: 1 Jul 2019 Person Responsible: Guy Roper</p>	<p>Hazard Description Who can be harmed? Any occupants of the vessels or persons working on the wharves. Also possible asset damage to the wharves and vessels. Vessels may be regular, infrequent, new to the Port or unusual (survey vessels, floating rigs etc). How can they be harmed? Loss of control of the vessel being towed (due to various causes including tug failure), tow line breakage or sea conditions could cause a vessel collision with the wharf or other vessels. Loss of control of tug (girding) whilst connected and underway. Catastrophic event especially if the wharf struck is NKTT.</p>	<p>Hazard Controls Eliminate or Substitute: Nil- Towing of vessels into the port is an operational requirement. NOTE: in the event of an unserviceable tug, pilotage could be aborted. Engineer or Isolate: Tug design and maintenance routines (incl tow lines and winch). Administration: Procedures, Training, Communication protocols, Pre-arrival check sheets, PPU deployment. Enview and real time weather input. Appropriate fleet of tugs available. 3-man tug crew to ensure focus on operation, engineering and connection to ship. Personal Protective and Safety Equipment: Deckhand wears appropriate PPE during tow line connection.</p>			
<p>ID: 26417 Critical Hazard? Yes</p>	<p>Hazard Title: (PHSC) Shared use of harbour area by a variety of vessels Business Unit: Marine</p>	<p>Control Hierarchies: Engineer or Isolate, Administration</p>			
<p>Review Frequency: 12 Months</p>	<p>Site: Vessels Specific Location: Unassigned</p>	<p>Initial Risk Rating: 3. High</p>		<p>Residual Risk Rating: 3. High</p>	

<p><u>Next Review Date:</u> 1 Jul 2019</p> <p><u>Person Responsible:</u> Guy Roper</p>	<p><u>Hazard Description</u> <u>Who can be harmed?</u> Any occupants of the vessels including PTL Piloted cargo vessels as well as kayakers, power boats, fishing vessels etc. Also possible asset damage to vessels.</p> <p><u>How can they be harmed?</u> Loss of control of the vessel (caused by various scenarios including vessel equipment failure, engine failure), excessive speed, failure to keep a proper lookout by sight and hearing, or sea conditions could cause a vessel collision with the wharf or other vessels.</p>	<p><u>Hazard Controls</u> <u>Eliminate or Substitute:</u> Nil; The Harbour is shared by the public therefore it can't be eliminated.</p> <p><u>Engineer or Isolate:</u> Recreational craft are isolated from the operational area as per the TRC Harbour Limits and bylaws. Charts of the restricted areas are displayed in all public areas around the Port.</p> <p><u>Administration:</u> Speed restriction in harbour of 5knots within 200m of shore or breakwater. Navigational bylaws and Collision Regulations 1972. Launch Masters and Harbour Wardens are empowered by the TRC to advise the public and intervene as required. Infringement notices can be issued in conjunction with the TRC. Fines can be issued to \$200 or \$2000 if it is required to go to court. Watch House monitor VHF channels and cameras and work in conjunction with the Coast Guard to monitor activity within the Port limits.</p> <p><u>Personal Protective and Safety Equipment:</u> Nil</p>
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Appendix III



Hazards - by Risk Score

Hazard / Risk	Initial Risk	Residual Risk
Emergencies on large vessels while alongside	4 - Extreme	3 - High
Moored vessels	4 - Extreme	3 - High
Manoeuvring large vessels in and out of the port	4 - Extreme	3 - High
Towing large vessels into the port	4 - Extreme	3 - High
Pilotage in poor visibility or navigational aid failure	4 - Extreme	3 - High
Pilotage with vessel emergency underway	4 - Extreme	3- High
Berthing large vessels within the port	4 - Extreme	2- Medium
Shared use of harbour area by a variety of vessels	3 - High	3 - High
Working/ driving while fatigued due to lack of sleep	3 - High	3 - High
Transfer of personnel at sea from vessel to vessel	3 - High	2 - Medium
Swimmers in Inner Harbour	2 - Medium	2 - Medium
Miscellaneous items floating in harbour	2 - Medium	1 - Low

Agenda Memorandum

Date 30 April 2019



**Memorandum to
Chairperson and Members
Policy and Planning Committee**

**Subject: Latest report from the Parliamentary
Commissioner for the Environment on
climate change targets and policies**

Approved by: AD McLay, Director – Resource Management

BG Chamberlain, Chief Executive

Document: 2232276

Purpose

The purpose of this memorandum is to introduce the latest report from the Parliamentary Commissioner for the Environment entitled '*Farms, forests and fossil fuels: The next great landscape transformation*' and to discuss its findings and recommendations.

Executive summary

This report, released by the Parliamentary Commissioner for the Environment (PCE) on 26 March 2019, proposes a fundamentally different approach to setting New Zealand's long-term climate change targets and policies and explores what this might mean for our landscapes.

The PCE suggests an approach to emissions reduction targets and climate policy generally that deals with biological emissions of greenhouse gases from farming and carbon uptake by forests together, with a separate target for carbon dioxide emissions from burning fossil fuels that would not have access to forest planting to offset those emissions.

The report also proposes taking a landscape approach to managing New Zealand's climate and environmental issues that would see local communities integrating climate change objectives with other environmental benefits such as improved water quality from additional forest planting.

The argument for a change in approach proposed in the report rests on the fact that New Zealand's current approach to all emissions relies heavily on forest offsets – and there are limits and risks with this approach. While some carbon dioxide and its warming effects can remain in the atmosphere for thousands of years, the climate benefits of forests cannot be guaranteed for such long periods because of the risk of fire, disease and climate change itself.

Using trees as a low cost way of avoiding making reductions in gross carbon dioxide emissions will the PCE claims, result in New Zealand being 'blanketed in pine trees',

reducing land use diversity with potentially significant impacts on local communities and will do little to encourage carbon emissions reductions at source.

Under the alternative approach explored by the report, fossil emissions would be managed down to zero by 2075, and this would be done separately from biological emissions (mainly methane and nitrous oxide from agricultural source) and forest sinks. While biological emissions would also need to be reduced, that would not be to zero because of their much shorter lifetime in the atmosphere (12 to 120 years).

As a consequence, the PCE believes that under the alternative approach, land use change would be driven by landowners (who live and work in the landscape), seeking to rebalance the natural capital on which they depend. According to the PCE, this approach has the potential to optimise both economic and environmental outcomes and provide the basis for a more integrated, landscape-wide approach to managing the environmental impact of New Zealand's land-based sectors.

The report is a thought provoking contribution to the debate about how New Zealand will set and achieve its targets under the Paris Agreement. It will be interesting to see the Government's response to the report over the coming months.

Recommendation

That the Taranaki Regional Council:

1. receives the memorandum '*Latest report from the Parliamentary Commissioner for the Environment on climate change targets and policies*'.

Background

This report, released by the Parliamentary Commissioner for the Environment (PCE) on 26 March 2019, proposes a fundamentally different approach to setting New Zealand's long-term climate change targets and policies and explores what this might mean for our landscapes.

The full report, a separate (and shorter) Report Overview, a 'Frequently Asked Questions' document and a media release can all be found at <https://www.pce.parliament.nz/publications/farms-forests-and-fossil-fuels-the-next-great-landscape-transformation>

Essentially, what the PCE is proposing is that the Government treat agricultural greenhouse gases differently to fossil fuel emissions in climate policy. He suggests an approach to emissions reduction targets and climate policy generally that deals with biological emissions of greenhouse gases from farming and carbon uptake by forests together, with a separate target for carbon dioxide emissions from burning fossil fuels that would not have access to forest planting to offset those emissions.

The report also proposes taking a landscape approach to managing New Zealand's climate and environmental issues that would see local communities integrating climate change objectives with other environmental benefits such as improved water quality from additional forest planting.

The report has been prepared as a contribution to the current debate about how New Zealand is going to meet its long-term commitments under the Paris Agreement and to challenge the premise that our current approach to target setting and climate change is beyond question. According to the PCE, there are always alternative ways to think about climate change issues, which would impose different costs and run different risks, and these need to be tested rather than simply being accepted without argument that 'there is no alternative'.

The report

In simple terms, the argument for a change in approach proposed in the report rests on the fact that New Zealand's current approach to all emissions relies heavily on forest offsets – and there are limits and risks with this approach. While some carbon dioxide and its warming effects can remain in the atmosphere for thousands of years, the climate benefits of forests cannot be guaranteed for such long periods because of the risk of fire, disease and climate change itself.

In the PCE's words, 'managing a long-term problem with a short-term fix is risky',

Using trees as a low cost way of avoiding making reductions in gross carbon dioxide emissions will the PCE claims, result in New Zealand being 'blanketed in pine trees', reducing land use diversity with potentially significant impacts on local communities. It will also do little to encourage carbon emissions reductions at source.

Under the alternative approach explored by the report, fossil emissions would be managed down to zero by 2075, and this would be done separately from biological emissions (mainly methane and nitrous oxide from agricultural source) and forest sinks.

While biological emissions would also need to be reduced, that would not be to zero because of their much shorter lifetime in the atmosphere (12 to 120 years). The PCE maintains that this approach more closely aligns the duration of the warming impact of biological emissions with the duration of forest sinks, (also part of biological cycles), that could offset those emissions. The PCE notes also, that there are practical limitations to reducing methane emissions from agriculture, although ongoing research shows promise leading to the conclusion that emissions of biological emissions should also be reduced.

The PCE proposes that a landscape approach be employed to deal with biological emissions. A landscape approach would integrate climate policy with other environmental and social objectives, such as improved water quality, reduced soils erosion, and enhanced biodiversity, as well as more resilient rural communities, at the local level.

By managing forest sinks and biological emissions together with other environmental issues, the PCE observes that this '*would focus on giving those who live in a landscape the incentives and means to address multiple objectives at the same time*' (from the 'Frequently Asked Questions' document).

The PCE's report adopts a timeframe consistent with the Paris Agreement (for signatories to meet their targets by the middle of the second half of this century). This is an extension of the Government's timeframe of a net low emissions economy by 2050 and is designed to provide for further developments in technology. He notes that many new low-cost carbon abatement technologies are available that will soon be commercially viable. The PCE states that

transitional ongoing support could be considered for those sectors lacking low carbon technology options, through for example, continuing free allocations, access to international units or even some forestry offsets.

For on-farm biological emissions, he notes that farmers can be doing a number of things now (changes to feeds, stocking rates etc.) but that the science of biological gases is complex and reducing them will not be easy. Furthermore, biological gases do not have to be reduced to zero because they do not last as long in the atmosphere as carbon dioxide.

The PCE's report dedicates a chapter (chapter 5) to modelling the two approaches and this shows a 'striking difference in real world outcomes' in terms of land use change. For example, unconstrained access to forest sinks under the current approach would see 5.4 million hectares of land undergo a change to forest cover, whereas under the most stringent requirements of the alternative approach, between 1.6 and 3.9 million hectares would be converted to forest.

While the PCE acknowledges that New Zealand can easily accommodate more forestry, he cautions that making all land potentially available for storing carbon (as a substitute for not emitting it) will inevitably limit land use choices and options and *that 'a different dynamic is at work if only biological emissions can be offset with trees'* (Report Overview, page 11).

As a consequence, the PCE believes that under the alternative approach, land use change would be driven by landowners (who live and work in the landscape), seeking to rebalance the natural capital on which they depend rather than a completely external grab for 'sink space' by the fossil economy. In the PCE's view, treating biological emissions and forest sinks together, has the potential to optimise both economic and environmental outcomes and provide the basis for a more integrated, landscape-wide approach to managing the environmental impact of New Zealand's land-based sectors.

The PCE's report makes only three recommendations:

- Develop two separate targets for the second half of the century: a zero gross target for fossil emissions, and a reduction target for biological emissions based on the advice of the new Climate Commission;
- Allow access to forest sinks as offsets only for biological emissions; and
- Develop the tools needed to manage biological sources and sinks with a landscape approach that embraces water, soil and biodiversity objectives.

Discussion

The PCE's report is a thought provoking contribution to the debate about how New Zealand will set and achieve its targets under the Paris Agreement.

There is consistency in the landscape approach promoted in the report, with what this Council and other councils around the country are attempting to do – recognise and further support the co-benefits of land use change for environmental gains as well as climate change objectives. Much of the Council's work programme in promoting water quality improvements, riparian management, sustainable land management and biodiversity enhancements are making a real and significant contribution to climate change, as well as promoting social, economic and environmental sustainability.

The Parliamentary Commissioner for the Environment is wise to sound a note of warning about the reliance on continued forest planting as sinks for rising carbon emissions. He notes that since 1990 New Zealand has increased its gross carbon dioxide emissions by 35% and that in this time there has not been a significant push for a 'decarbonisation' of transport and industry. The reliance on forest offsets to reduce all greenhouse gas emissions carries risks, which are well set out in the report.

He sees rural communities as more than just places for storing carbon; they are places where a range of social, economic and environmental services are provided, including locally based climate change initiatives integrated into the life of the local community. This is entirely consistent with the statutory duties of this Council to play a broad role in meeting the current and future needs of its community for local public services and the performance of its many regulatory functions.

To claims that the report is just letting farming off the hook, the PCE states this is not the case. Part of his reasoning is that higher fossil emissions prices for fossil emitters would reflect the very different risks carbon dioxide poses in comparison with biological gases. Farmers are also heavy users of fossil fuels so would face the same fossil fuel emissions prices as other fossil emitters.

The range of expert reaction to the report has been largely positive and supportive, while others have stated that more work is required on details of the approach. For example:

'This is a bold approach, which focuses policy attention on eliminating fossil emissions of carbon dioxide, because they are the primary driver of climate change. Without this focus, we have no hope of achieving the goals of the Paris Agreement. By grouping biological sources and forest credits under a single umbrella, the recommended strategy makes full use of the potential of our forests to slow climate change while reflecting the real limitations of over-reliance on forest carbon in the long term. This grouping may also give land managers flexibility to develop sustainable land use plans with multiple benefits.' Dr Sarah Mikaloff-Fletcher, Atmospheric Scientist, NIWA.

'Treating biological and fossil emissions separately is a very sensible approach. Forestry expansion remains a predominant way to offset emissions but the report clearly identifies the long-term risks. Opportunities and willingness to introduce more diverse farming systems at landscape scales... need to be encouraged...' Dr David Whitehead, plant and soil scientist, Landcare Research.

'The degree to which afforestation can be used to offset agricultural emissions also needs to be thought about ... Clearly, there needs to be strong incentives to reduce biological emissions beyond the offset option that push towards more sustainable forms of farming.' Dr Ivan Diaz-Rainey, Associate Professor of Finance and Co-Director of the Otago Energy Research Centre.

The PCE's premise that forests are short term reservoirs... is open to debate. Forests in aggregate are often maintained over millennia, and the question of what average level of carbon storage they represent can be predicted quite accurately... Trees represent the most economically viable mechanism for removing CO₂ from the atmosphere, and we ignore this potential at our peril'. Professor Euan Mason, School of Forestry, University of Canterbury.

The full reaction of these and other experts in the field can be found at <https://www.sciencemediacentre.co.nz/2019/03/26/separating-greenhouse-gases-in-climate-policy-expert-reaction/>

There are still many issues to be addressed, for example, how to measure greenhouse gas emissions at a farm level, further research required on practical mitigation options and setting a price for greenhouse gas emissions that reflect the different characteristics of the gases.

The Government's response to the PCE's report over the coming months will be of interest.

Decision-making considerations

Part 6 (Planning, decision-making and accountability) of the *Local Government Act 2002* has been considered and documented in the preparation of this agenda item. The recommendations made in this item comply with the decision-making obligations of the *Act*.

Financial considerations—LTP/Annual Plan

This memorandum and the associated recommendations are consistent with the Council's adopted Long-Term Plan and estimates. Any financial information included in this memorandum has been prepared in accordance with generally accepted accounting practice.

Policy considerations

This memorandum and the associated recommendations are consistent with the policy documents and positions adopted by this Council under various legislative frameworks including, but not restricted to, the *Local Government Act 2002*, the *Resource Management Act 1991* and the *Local Government Official Information and Meetings Act 1987*.

Iwi considerations

This memorandum and the associated recommendations are consistent with the Council's policy for the development of Māori capacity to contribute to decision-making processes (schedule 10 of the *Local Government Act 2002*) as outlined in the adopted long-term plan and/or annual plan. Similarly, iwi involvement in adopted work programmes has been recognised in the preparation of this memorandum.

Legal considerations

This memorandum and the associated recommendations comply with the appropriate statutory requirements imposed upon the Council.

Agenda Memorandum

Date 30 April 2019



**Memorandum to
Chairperson and Members
Policy and Planning Committee**

Subject: Irrigation NZ News magazine: Articles of interest

Approved by: AD McLay, Director – Resource Management
BG Chamberlain, Chief Executive

Document: 2241112

Purpose

The purpose of this memorandum is to introduce several articles from the latest Irrigation NZ News magazine that will be of interest to the Committee and provide some useful national context.

Executive summary

The Irrigation NZ News magazine is a quarterly magazine published by Irrigation New Zealand Inc. The latest issue (Autumn 2019) contains several articles that are relevant to the work of this Council and will be of interest to members of the Committee. They include:

- What's the future of Overseer? (page 14);
- River quality shows improvements, with more work still needed (page 32);
- The New Zealand Water Model – a new water modelling approach (page 34); and
- Our Land and Water takes on agricultural challenges (page 36).

The articles are all on topics that are being looked at nationally and therefore they provide important context for ongoing work in Taranaki.

The full magazine can be viewed at

https://www.irrigationnz.co.nz/News/Attachment?Action=Download&Attachment_id=562

Recommendation

That the Taranaki Regional Council:

1. receives the memorandum '*Irrigation NZ News magazine: Articles of interest*'.

Background

The Irrigation NZ News magazine is a quarterly magazine published by Irrigation New Zealand Inc. The magazine has a national readership.

The latest issue (Autumn 2019) contains several articles that are relevant to the work of this Council and will be of interest to members of the Committee. The full magazine can be viewed at https://www.irrigationnz.co.nz/News/Attachment?Action=Download&Attachment_id=562

The articles of particular interest in the magazine are as follows:

- What's the future of Overseer? (page 14);
- River quality shows improvements, with more work still needed (page 32);
- The New Zealand Water Model – a new water modelling approach (page 34); and
- Our Land and Water takes on agricultural challenges (page 36).

These articles are all on topics that are being looked at nationally and therefore they provide important context for ongoing work in Taranaki.

Discussion

What's the future of Overseer?

In this article, the authors examine the recent report of the Parliamentary Commissioner for the Environment (PCE) on the use of the Overseer model in regulatory settings (the PCE's report was presented to this Committee at its 5 February 2019 meeting) and summarise the views of experts on the report.

After a brief introduction in which it highlights the PCE's findings on the limitations of using Overseer as a regulatory tool, the article goes on to summarise what Overseer can do and what it can't do. Key issues with Overseer are then identified and discussed. These include such things as data input uncertainty, the inability of Overseer to represent farm systems in particular regions, uncertainty in a compliance setting and changes in versions of Overseer and the implications of such changes for regulation through regional plans.

Council staff have raised concerns on numerous occasions with the inherent uncertainties of Overseer modelling and its unsuitability for use in regulation and enforcement.

River quality shows improvements, with more work still needed

This article reports on LAWA's (Land, Air, Water Aotearoa) second national trend report on river quality using sampling sites across New Zealand from 2008 to 2017.

For the first time, national trends for the Macroinvertebrate Community Index (MCI) are included in the LAWA report.

It shows that for all water quality indicators (except MCI) more sites showed signs of improving water quality than degrading water quality over the last 10 years. The results nationally for MCI were put down to lags between improvements in stream habitat and water quality and responses in MCI, particularly where the improved sites are far from sources of sensitive invertebrate species to colonise the sites.

Members will recall that the most recent results (2018) from our own state of the environment monitoring of MCI show the best ever ecological health since monitoring began in the mid-1990s with 98% of monitored rivers and streams improving or not changing significantly compared to 24 years ago.

The latest LAWA 10-year dataset shows improvements are happening in water quality nationally but that more work is needed in some areas.

The New Zealand Water Model – a new water modelling approach

This article describes the development of a new water modelling approach that will link a wide range of environmental data into a modular system using an integrated platform. The modular design aspect is important as it will allow sub-models that represent hydrological, ecological and water quality processes to be added as required.

NIWA is leading the development of this modelling approach, which is known as the New Zealand Water Model (NZWaM), in conjunction with GNS Science, Manaaki Whenua – Landcare Research, Ministry for the Environment, Ministry for Primary Industries, and regional and district councils (Southland, Horizons and Gisborne).

The first component of the NZWaM platform to be completed will be the New Zealand Water Model – Hydrology (NZWaM – Hydro). It will provide essential hydrological information for land and water management and planning at national, regional, catchment, and sub-catchment scales throughout New Zealand. Potential applications noted in the article include national and regional policy development, water allocation and flow setting, water accounting, and flow, flood and drought forecasting. The modular design of NZWaM will allow it to be coupled to sub-models that predict water quality (NZWaM – Water Quality) and ecological conditions (NZWaM – Ecology) as these are developed from other research NIWA is undertaking.

All components of NZWaM – Hydro are scheduled for completion by 2022 with a period of data quality assurance and benchmarking and improvements to how the model interfaces with the user.

Our Land and Water takes on agricultural challenges

Our Land and Water is one of 11 National Science Challenges that are funding scientific research into issues of national significance. It is one of the largest National Science Challenges and is funded by the Ministry of Business, Innovation and Employment over eight years at a cost of \$96.9 Million.

The article reports on three projects currently underway as part of the challenge: research on phosphorus levels in waterways, investigations into natural denitrification in groundwater and research into eutrophication product footprinting.

The research is producing some interesting results. For example, phosphorus levels were found to be declining in many waterways and the researchers found the most likely causes were on-farm strategies, industry guidelines and phosphorus being specifically mentioned in policy instruments. Interestingly, the research found little evidence of a decrease in fertiliser use or a change in fertiliser form.

The natural denitrification project is looking into processes that reduce nitrate in groundwater before it enters freshwater bodies such as streams and lakes.

The product eutrophication footprinting project involves working with international researchers to develop eutrophication impact assessment models that can be applied in every

country. Enabling the comparison could be good for New Zealand's primary industry exports.

Decision-making considerations

Part 6 (Planning, decision-making and accountability) of the *Local Government Act 2002* has been considered and documented in the preparation of this agenda item. The recommendations made in this item comply with the decision-making obligations of the *Act*.

Financial considerations—LTP/Annual Plan

This memorandum and the associated recommendations are consistent with the Council's adopted Long-Term Plan and estimates. Any financial information included in this memorandum has been prepared in accordance with generally accepted accounting practice.

Policy considerations

This memorandum and the associated recommendations are consistent with the policy documents and positions adopted by this Council under various legislative frameworks including, but not restricted to, the *Local Government Act 2002*, the *Resource Management Act 1991* and the *Local Government Official Information and Meetings Act 1987*.

Iwi considerations

This memorandum and the associated recommendations are consistent with the Council's policy for the development of Māori capacity to contribute to decision-making processes (schedule 10 of the *Local Government Act 2002*) as outlined in the adopted long-term plan and/or annual plan. Similarly, iwi involvement in adopted work programmes has been recognised in the preparation of this memorandum.

Legal considerations

This memorandum and the associated recommendations comply with the appropriate statutory requirements imposed upon the Council.

Agenda Memorandum

Date 30th April 2019



**Memorandum to
Chairperson and Members
Policy and planning Committee**

**Subject: Riparian management programme
update**

Approved by: Stephen Hall
BG Chamberlain, Chief Executive

Document: 2185854

Purpose

To update Council on progress with the riparian management programme.

Executive summary

Council adopted its riparian management implementation strategy in 1993 to address the adverse effects of diffuse source contaminants from overland runoff. This has been delivered through Council's voluntary riparian management programme which has focussed on the preparation of customised plans for landholders.

Currently, 2,600 plans have been prepared which collectively cover 14,464 kilometres of streambank and recommended 6,954 kilometres of new fencing and 6,098 kilometres of new planting.

There has been impressive progress with plan implementation over the last 25 years, with 86% of riparian margins now fenced and 72% planted (or vegetated). To date, 4,869 kilometres of streambank have been fenced and 2,917 kilometres have been planted. Over 5.1 million native plants have now been sold at cost through Council's native plant scheme. This is a significant achievement under a voluntary approach and Taranaki is well ahead of the rest of the country with both plan preparation and implementation.

Council has been encouraging plan holders to complete their riparian plan implementation by the end of the decade or near after. There are still 2,202 kilometres of fencing and 3,311 kilometres of planting to do and current implementation rates would need to increase to achieve completion by 2020 or near after.

Whilst much progress has been achieved via a voluntary approach, Council has clearly signalled its intention that regulation is coming to complete the programme. It is intended that those farmers on the intensively farmed ring plain and coastal terraces who have not made significant progress, will require a resource consent.

In Council's draft Freshwater Plan a regulatory regime was suggested which would require plan holders to gain a Certificate of Compliance. Council agreed in mid-2017 to progress the Riparian Certificate of Compliance concept. Since then an audit process has been developed, trialled and introduced, this is now being rolled out and will underpin future compliance requirements. Noting that this is still non-regulatory and the issuing of Compliance Certificates over the next 1-2 years will have no regulatory backing. However, it is seen as an important step to provide plan holders with clarity on what is required and to signal to some that they need to get on and implement their riparian plans.

It is also important to note that the Government is planning new regulations around riparian management to also be in place in 1-2 years, and whilst there is still uncertainty around the specific details, Council's requirements will hopefully meet and ultimately be more comprehensive than the proposals of Government.

Background

Council adopted its riparian management implementation strategy in 1993 to help achieve its statutory responsibilities under section 30 of the Resource Management Act 1991. The objectives of this strategy were later included in the Regional Policy Statement in 1994. They are also aligned with achieving Objectives 6.3.1 & 6.3.2 of the Regional Fresh Water Plan (RFP) for Taranaki which are: "to maintain and enhance the quality of the surface water resources of Taranaki by avoiding, remedying or mitigating the adverse effects of contaminants discharged to water from diffuse sources", and, "to maintain and enhance the riparian margins of surface waterbodies in order to avoid, remedy, or mitigate the adverse effects of activities on water quality, and aquatic and instream habitat". Council regards riparian management as an effective tool to achieve these objectives. Voluntary implementation by landowners has been the preferred option to date adopted in the Riparian Implementation Strategy.

Recommendations

That the Taranaki Regional Council:

1. receives this memorandum *Riparian management programme update*; and
2. notes the progress with the riparian programme and development of auditing process.

Discussion

Since 1993, the riparian management programme has focused on Council preparing individual property plans for landowners. Currently, 2,600 plans have been prepared which collectively cover 14,464 kilometres of streambank and recommended 6,954 kilometres of new fencing and 6,098 kilometres of new planting.

As the programme and technology developed, Council dedicated more resources for increased plan preparation. Consequently, the majority of riparian plans were prepared between 2001-2008 following the introduction and use of GIS (Geographic Information System). Thus, the majority of plan holders have had about 17 years to plan and implement their riparian work programmes.

Since 2008, the focus has been on one on one engagement with plan holders to achieve implementation of fencing and planting. Council officers visit each plan holder every year

providing advice, monitoring progress, and offering riparian plants at cost prices via the Council's riparian plant scheme. Since 1996, plan holders have been able to make significant savings by purchasing over 5.1 million native plants at wholesale rates.

Council has led the rest of the country with plan development and preparation, and is now focussed on completing implementation, 10 years before the rest of the country and to a higher standard.

Most importantly, in terms of outcomes, riparian management is improving water quality in the region's waterways and helping to protect the long-term sustainability and viability of farming in the region. An independent report prepared for Council by NIWA in 2018 confirms that the improvement in water quality have a very strong correlation with the implementation of riparian fencing and planting.

Implementation

There has been good progress with plan implementation over the last 25 years, with 86% of riparian margins now fenced and 72% planted (or vegetated). To date, 4,869 kilometres of streambank have been fenced and 2,917 kilometres have been planted. This is a significant achievement under a voluntary approach. However, there are still 2,202 kilometres of fencing and 3,311 kilometres of planting to do.

Under current, annual implementation rates (approximately 3-400 kms), fencing is likely to be achieved by 2023. A significant increase in planting rates would be required however, to finish simultaneously with fencing. This has not happened to date. Based on current planting rates the majority of planting is likely to take approximately another 8 years (2026).

The proposed completion date for implementation of riparian plans under the Councils draft Freshwater and Sustainable Land Management Plan is 2020 or near after. It proposes a rule to regulate those not completing the implementation of their riparian plans. Over the last 5 or so years the consistent message to plan holders is that Council requires their riparian plan to be completed by around the end of the decade, and that regulation is imminent for those who don't comply. This has been followed up after each monitoring visit with a letter detailing the amount of fencing and planting required to be completed and provides a staged approach to its completion. Table 1 at the end of this memorandum provides an overview of Council documents referring to completion and the 2020 target and the associated promotion of this target.

The Government has also strongly signalled their intention for national level requirements relating to riparian management, this includes stock exclusion from waterways and associated planting requirements. With the completion of most riparian fencing and planting likely by around the end of the decade this places Taranaki well ahead of other regions in terms of riparian management.

Over the last 18 months, staff have been developing, trialling and starting to roll out a riparian plan audit process, which will ultimately underpin the issuing of future Riparian Management Plan Compliance Certificates. The intention of this is to provide plan holders with a clear understanding of what constitutes acceptable completion of their riparian management plan by Council. Whilst the programme is still non-regulatory and the issuing of a Compliance Certificate over the next 1-2 years will have no regulatory backing, it is very much the intention that at some point around the end of the decade or shortly thereafter this

will change and Compliance Certificates will be an important component underpinning a regulatory regime, requiring those undertaking intensive farming activity to have an implemented riparian plan.

As at the 12th of April, 450,000 plants have been ordered for this winter's planting season. This compares to 360,000 at the same time last year.

Promotion of riparian 2020 expectations

The following table provides an overview of Council documents, memorandums and promotional material regarding the concept of completing riparian plans by the end of the decade or near after and the likelihood of a completion certificate/compliance regime being required. Communications have generally been distributed by all media types, in particular, direct email and letters to planholders:

Table 1

	Year	Publication	Key message
1	1992	Riparian discussion document	Recognition that the voluntary approach was the preferred approach and after 20-30 years, rules and regulations could be revisited.
2	2011	Transforming Taranaki	"Completing the programme", page 36, Chief Executive's message.
3	2012	Council agenda item	Presentation of proposal for 2020 completion and compliance regime.
4	2013	2013 Annual Plan & subsequent LTP's	Level of service relating to 2020 target.
5	2015	Draft Freshwater and land management plan, discussion papers and subsequent submissions	Rule 35 & 36.
6	2015	Radio campaign.	Taranaki Farmers leading the country, you'll need to plan ahead to meet the 2020 target.
7	2015	Advertisement to order your riparian plants.	Complete riparian fencing and planting on the Taranaki ring plain and coastal terraces by the end of the decade. The 2020 target is achievable.
8	2016	Email: Riparian Management Programme update. Message to farmers- commitment to riparian protection.	The 2020 target for landowners to complete riparian fencing and planting on intensively farmed land is achievable.
9	2016	Stuff story and video of Robyn Lilley who is proud of fencing and planting on his Tariki farm.	Council is committed to helping farmers finish their riparian fencing and planting by the end of the decade
10	2016	Promotion to order plants for the season	LMOs happy to discuss requirements and take plant orders to help land owners meet 2020 target.

11	2016	Riparian fencing and planting commitment letter to planholder following a monitoring visit.	Formalising commitment to Completion by 2020
12	2016	Standard riparian plan information sheet updated for planholders	Getting riparian planting finished in Taranaki by 2020"
13	2016	Case study - Crams. A riparian success story.	Plant and order each year to meet 2020 completion target
14	2017	Waiokura Catchment results	'finish by 2020 or compliance"
15	2017	TRC riparian communications plan.	Key message of plan bullet no. 18.
16	2017	plant pickup invitation,	completion by 1 July 2020
17	2017	Ordinary Council Meeting	Riparian management plan compliance certificate agenda item.
18	2017	Letter to planholders with poor progress. Council chair. Sent to around 300 planholders with only 11 subsequent phone queries.	Expectation of finishing by 2020. Letter was either unsatisfactory progress, or improvement of implementation rate needed.
19	2017	Good farm management requirements in Taranaki (blue book), pg 5.	Expectations of finishing riparian plans by 2020 a key element of requirements guide.
20	2017	RMP monitoring discussion points verbally communicated to planholders by LMO.	Expectation of finishing by 2020
21	2017	Advertisement: Farmers committed to riparian protection	Most farmers are well on the way to completing the fencing and planting of waterways by 2020. Order your riparian plants today
22	2017	Email: Riparian update	Studies show environmental benefits of riparian fencing and planting. Those farmers that don't have a Certificate of Compliance for their riparian plan by 2020 are highly likely to face costly regulatory requirements either from the Council or central Government.
23	2017	Meuli wetland and riparian case study.	Ringplain and coastal terrace farmers are required to fence off their regionally significant wetlands as part of having their riparian management plan completed by 2020.
24	2018	Case study: Bridgemans	Early start, early finish to meet looming 2020 deadline
25	2018	Chairman MacLeod: Armstrong case study with Compliance.	2020 approaching and TRC will be checking compliance

Decision-making considerations

Part 6 (Planning, decision-making and accountability) of the *Local Government Act 2002* has been considered and documented in the preparation of this agenda item. The recommendations made in this item comply with the decision-making obligations of the *Act*.

Financial considerations—LTP/Annual Plan

This memorandum and the associated recommendations are consistent with the Council's adopted Long-Term Plan and estimates. Any financial information included in this memorandum has been prepared in accordance with generally accepted accounting practice.

Policy considerations

This memorandum and the associated recommendations are consistent with the policy documents and positions adopted by this Council under various legislative frameworks including, but not restricted to, the *Local Government Act 2002*, the *Resource Management Act 1991* and the *Local Government Official Information and Meetings Act 1987*.

Iwi considerations

This memorandum and the associated recommendations are consistent with the Council's policy for the development of Māori capacity to contribute to decision-making processes (schedule 10 of the *Local Government Act 2002*) as outlined in the adopted long-term plan and/or annual plan. Similarly, iwi involvement in adopted work programmes has been recognised in the preparation of this memorandum.

Legal considerations

This memorandum and the associated recommendations comply with the appropriate statutory requirements imposed upon the Council.

- (i) *Enable any local authority holding the information to carry on, without prejudice or disadvantage, negotiations (including commercial and industrial negotiations); or*
- (j) *Prevent the disclosure or use of official information for improper gain or improper advantage.*

Agenda Memorandum

Date 30 April 2019



**Memorandum to
Chairperson and Members
Policy and Planning Meeting**

Subject: Farm environment plans and good management practices

Approved by: AD McLay, Director – Resource Management
BG Chamberlain, Chief Executive

Document: 2237632

Purpose

The purpose of this memorandum is to introduce Fonterra farm environment plans that address environmental management on farms.

A Powerpoint presentation from Philippa Fourie and Blake Cheer (Fonterra) will be made. A copy of the base presentation is attached.

Executive summary

- In recent times, there has been national and industry interest in the development of 'farm environment plans'. Farm environment plans identify and set out, for all farm activities, the actions necessary to manage and reduce their environmental risks over time.
- Farm environment plans are an example of a sector led initiative in New Zealand to address the adverse effects of farming on the environment. However, the Ministry for the Environment (MFE) is now considering farm environmental plans as part of their *Essential Freshwater Provisions for the Rural Sectors* reform package.
- A draft national environmental standard is anticipated to be developed by July 2019 that, amongst other things, sets out national direction relating to farm environment plans.
- The Council's position to date has been that the development of farm environment plans should be industry-led. There is a plethora of advisors and consultants already in this space and industry are best placed to develop, audit and, if necessary, enforce any industry requirements.
- The Fonterra farm environment plans provide an example of a sector led non-regulatory environmental initiative that should have positive resource management outcomes.
- The Council has also commenced a project to develop online advice for Taranaki farmers to promote the uptake of good farming management practice and aid the preparation of property-specific farm environment plans.

- The project complements and builds on Council advice set out in the publication *Taranaki Regional Council Requirements for Good Farm Management Practices* and consolidate the plethora of industry advice (primarily in hardcopy form) on best practice for managing the adverse effects of farming operations and for which there is currently no regulatory/consenting requirements.

Recommendations

That the Taranaki Regional Council:

1. receives this memorandum;
2. notes the Fonterra farm environment plans are an example of a sector led non regulatory resource management initiative;
3. notes the Ministry for the Environment are considering farm environmental plans as part of its freshwater management reform package to be released mid-2019; and
4. notes the Council has commenced a project to develop online advice for Taranaki farmers to promote the uptake of good farming management practices and aid the preparation of property-specific farm environment plans in the region.

Background

Taranaki farmers have a long history of developing and implementing various forms of farm plans. However, in recent times, there has been national and industry interest in the development of 'farm environment plans' that identify and set out, for all farm activities, the actions necessary to manage and reduce their environmental risks over time. A farm environment plan is likely to include:

- map(s) of the property;
- identification of all environmental risks;
- a nutrient budget and stock exclusion plans; and
- good management practices or actions to be undertaken by the farmer to reduce those environmental risks.

In 2015, this Committee received a report from a National Collaborative Working Group on actions necessary to support the successful development and implementation of farm environment plans.

The report promoted the use of farm environment plans as a tool for farmers to better address the impacts of their activities on the environment. The report noted the use of farm environment plans by some farm sectors as part of a strategy for extracting additional market value from farm production *The Food, Farms and Freshwater enterprise scheme* presented to the Committee in February 2015 is an example of this. Key findings from the report were:

- there is no desire for regulatory oversight into farm decision-making processes, however, councils and communities do need assurance that credible steps are being taken on-farm to manage the impacts of their activities within environmental limits;
- farm environment plans are important on-farm tools and maintaining their credibility in the eyes of the farmer is important to their effectiveness;

- in some situations farm environment plans might not be sufficient for reaching a limit. In these cases there would need to be a 'different management conversation';
- there are opportunities to realise efficiencies and relieve pressure on farm advisors and council staff by avoiding duplication, taking a risk-based approach and ensuring that benchmarking and on-farm auditing is proportional to impact;
- farmers want to take ownership of the problem but need information and time to do this, including information on how their actions directly affect the environment and how this fits into a broader NZ Inc story that resonates with their customers and urban New Zealand;
- success requires building the credibility of the farm environment plan in the eyes of the community and this will come from demonstrable actions;
- from these lessons and insights a conceptual model emerges that puts responsibility for farm management plans largely with farmers and sector organisations and gives information to councils that provides assurance that credible steps are being taken; and
- continue to convene a national collaborative working group to advise on the design and use of farm environment plans in regional planning frameworks.

Additional comments in the report from the Ministry for Primary Industries were:

- increased market and regulatory drivers for more sustainable environmental outcomes have made farm environmental plans an imperative tool for farmers;
- there is a need for farm environment plans to clearly distinguish between voluntary and regulatory activities. Regional councils and Government do not need to see financial details of the agricultural enterprise;
- the report does not suitably contextualise the case that some farmers in many sensitive catchments will need to make contaminant reductions well beyond good management practices supported by a farm environment plan;
- farm environment plans are a national tool for triaging – where high risk farms are identified and available capability is directed towards these farms;
- there is a need to ensure that farm plans are not just tick box exercises but that they actually deliver broader economic and environmental gains for all; and
- clear demonstration that on-farm practices achieve desired outcomes is needed. The report noted by no means is it proposing that all farms in New Zealand have a farm environment plan and that if these plans be linked with regulation, it will be important that the advantages and disadvantages of doing so are rigorously tested and debated by relevant parties for it to achieve support across the farming sector.

Since that time, significant further work has been undertaken to promote the development, preparation and implementation of farm environment plans. Some farming industry sectors have been particularly active in the development and adoption of such plans. Some councils such as Environment Canterbury and Waikato Regional Council have a regulatory requirement for farm environment plans.

Industry initiatives

An example of good farming management is the *2015 Industry-Agreed Good Management Practices Relating to Water Quality* report, that was developed with farmer-driven involvement from Dairy NZ, Deer Industry New Zealand, NZ Pork, Beef & Lamb NZ,

Horticulture NZ and the Foundation for Arable Research, with funding also provided by central government.

Industry have taken the concept further with the following industry approved farm environment plans templates now available to farmers, including:

- Beef & Lamb NZ
- NZ Dairy
- NZ Deer
- NZ Foundation for Arable Research
- Horticulture NZ
- Irrigation New Zealand
- Pork NZ.

The dairy sector and Fonterra have been particularly active and are leading the way. Sheep/beef and horticulture have been slower and are finalising their environmental strategies.

Fonterra has a farm source sustainable dairying programme that includes farm environment plans. Implementing the programme is a condition of supply. The programme aims to achieve sustainable dairying and carrying for the land for future generations. Sustainable dairy advisors are in every region offering on-on-one support to farmers that are tailored to meet farmer's regional and individual on-farm needs.

Central government initiatives

As previously noted, there is a strong interest with central government, to requiring farmers to prepare and implement farm environment plans.

The MFE *Essential Freshwater Provisions for the Rural Sectors* primary purpose is to help stop further water quality degradation and reverse past damage in rural areas and to support the transition to an environmentally and economically sustainable and resilient primary sector. The *Essential Freshwater* package has four key policy areas for delivering freshwater quality improvements:

- farm environment plans;
- high risk land-uses activities;
- intensification; and
- stock exclusion.

A national environmental standard to implement policy in these four areas is being considered together with a review of the *National Policy Statement for Freshwater Management* to address the high-level policy framework.

At this point of time, there is no detail from central government as to what form this national direction might take, and/or how (and by whom) it will be implemented. There have been some high level discussion with the regional council sector about the *Essential Freshwater Programme* but nothing has finally been determined by MFE. Hence, there is a degree of uncertainty. However, an initial high-level consideration of what this could mean for the Council and community is provided below.

Farm environment plans in Taranaki

Members should note that farm environment plans are not new and have been used by farmers for many years. As non-regulatory tools they can be traced back to soil conservation plans that pre-date the *Resource Management Act 1991* (RMA). Indeed, this Council has been a leader in the use of farm environment plans with its highly successful riparian management and sustainable land management programmes.

As a result, farm environment plans have taken on a range of functions and styles that reflect the different pressures and drivers and different planning contexts, histories and capabilities of the regions or the sector groups for which they were developed.

The Fonterra farm environment plans are an example of a sector led initiative. They provide an example of what could be required under the MFE *Essential Freshwater Provisions for the Rural Sectors*.

The ability to use terms of supply to bring about environmental change at the farm level is superior in a number of ways to the current RMA plan change process that is not agile and can take years to be completed.

A farm environment plan proposal could involve either non-regulatory or regulatory methods and be phased in over time with an initial focus on high-risk activities and at risk catchments. The plans could be approved by a certified person and require auditing. They would aim to promote the uptake of improved management practices. Implementation support would be critical for farmers and councils and there could be many other administrative, cost, and capacity issues for councils if they have a statutory role in regulating (auditing) farm environment plans. To prepare farm environment plans across NZ would be a huge task unless it was carefully staged and there was buy in from land users.

The Council will be able to submit on MFE proposal when it is released in mid-2019. The Council's position to date has been that the development of farm environment plans should be industry-led. There is a plethora of advisors and consultants already in this space and industry are best placed to develop, audit and if necessary enforce any industry requirements. Council has no desire for regulatory oversight into industry/farm decision-making processes.

The Council's position on who should develop, audit and enforce farm environment plans may change depending upon Government decisions. However, in the interim, the Council has commenced a project to develop online advice for Taranaki farmers to promote the uptake of good farming management practice and aid the preparation of property-specific farm environment plans.

The project complements and builds on Council advice set out in the publication *Taranaki Regional Council Requirements for Good Farm Management Practices*, which is predominantly focused on the farmers' regulatory requirements under the RMA. However, through this project, Council will consolidate the plethora of advice (primarily in hardcopy form) on best practice for managing the adverse effects of farming operations for which there is currently no regulatory/consenting requirements.

Once developed the web based good farming management practice web site will be demonstrated to Council.

Decision-making considerations

Part 6 (Planning, decision-making and accountability) of the *Local Government Act 2002* has been considered and documented in the preparation of this agenda item. The recommendations made in this item comply with the decision-making obligations of the *Act*.

Financial considerations—LTP/Annual Plan

This memorandum and the associated recommendations are consistent with the Council's adopted Long-Term Plan and estimates. Any financial information included in this memorandum has been prepared in accordance with generally accepted accounting practice.

Policy considerations

This memorandum and the associated recommendations are consistent with the policy documents and positions adopted by this Council under various legislative frameworks including, but not restricted to, the *Local Government Act 2002*, the *Resource Management Act 1991*, *Maritime Transport Act 1994*, and the *Local Government Official Information and Meetings Act 1987*.

Iwi considerations

This memorandum and the associated recommendations are consistent with the Council's policy for the development of Māori capacity to contribute to decision-making processes (schedule 10 of the *Local Government Act 2002*) as outlined in the adopted long-term plan and/or annual plan. Similarly, iwi involvement in adopted work programmes has been recognised in the preparation of this memorandum.

Legal considerations

This memorandum and the associated recommendations comply with the appropriate statutory requirements imposed upon the Council.

Attachments

Doc 2238117 copy of Fonterra base power point presentation.

TI AKI

FARM SOURCE SUSTAINABLE DAIRYING



TIAKI



WHAKATAUKI

TIAKINA TE WHENUA I TĒNEI RĀ,
KIA WHAI ORANGA TANGATA MŌ
NGĀ RĀ E HEKE MAI NEI.

PROVERB

CARING FOR THE LAND TODAY,
SO THAT THE LAND CARES
FOR US TOMORROW.

TIAKI THE DEFINITION

Tiaki means **to look after, to guard, to care for, keep and nurture.**

This single word embodies the full vision of Farm Source's
Sustainable Dairying Programme

A SUSTAINABLE FOCUS

As a responsible Co-operative, sustainable dairying is at the core of our identity. It is about caring for the land for future generations – all who work it and all who are connected to it.





A DEDICATED TEAM OF EXPERTS

Our Sustainable Dairying Advisors are in every region of New Zealand offering one-on-one support – tailored to meet farmer's regional requirements and individual on-farm needs.

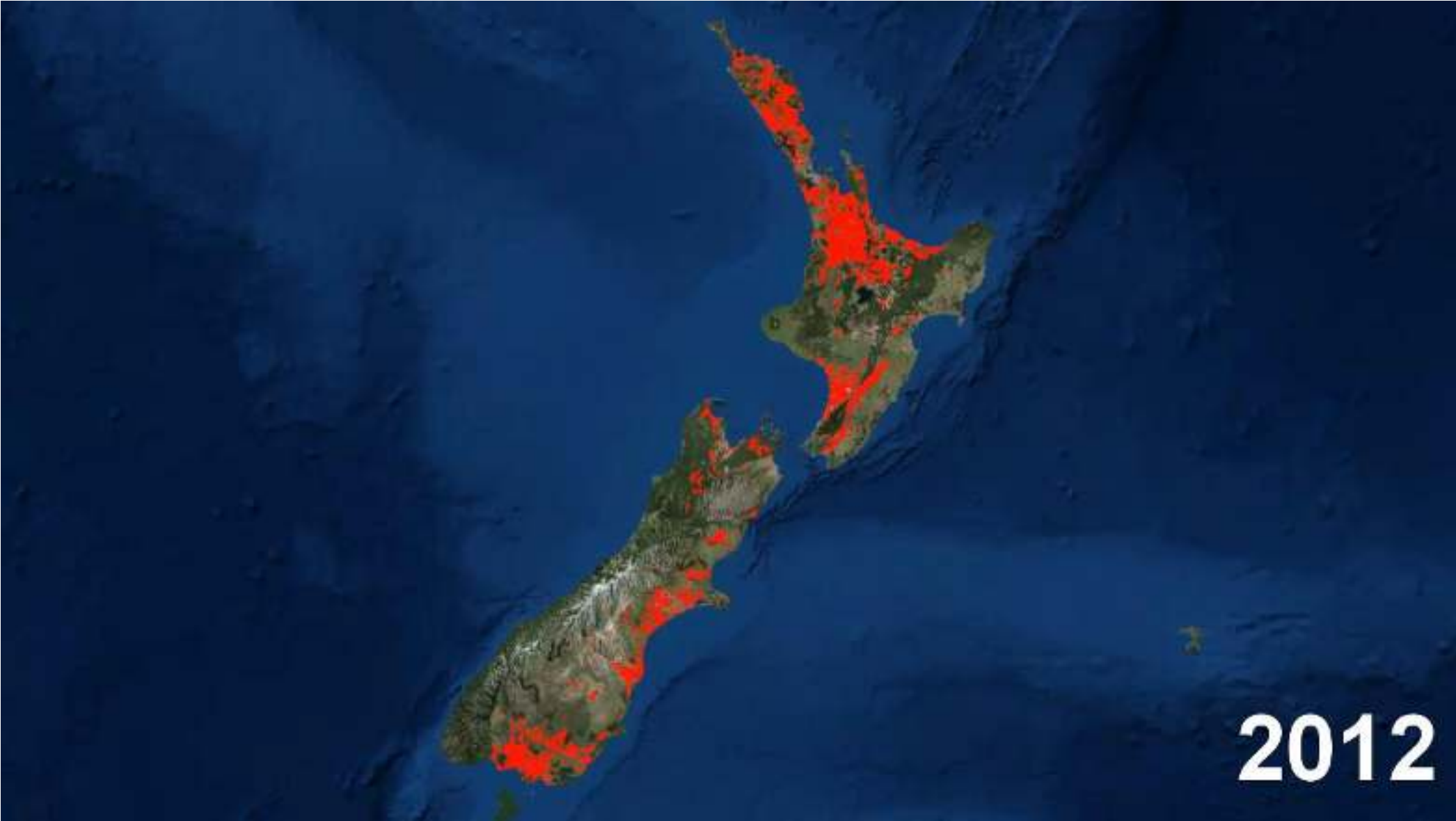
A RANGE OF **SERVICE OFFERINGS**

Providing farmers with industry leading services, knowledge and resources that support best practice farm management and satisfy regulatory requirements.



A photograph of a person in a dark jacket leaning over to examine a plant in a field. The image is overlaid with a semi-transparent dark green rectangle containing white text. The background is a bright, sunny outdoor setting with green grass and foliage.

**Farm Environment Plans
Consent Support
Nutrient Budgets
Riparian Management Plans
Effluent Management
Nitrogen Reports
Farm Mapping**



TIAKI IN PRACTICE: FARM ENVIRONMENT PLANS



- Individually tailored plans
- Identify environmental risks on farm
- Outline an action plan for managing these risks
- Capture good management practices
- One-on-one delivery
- Can aid in meeting regulatory requirements

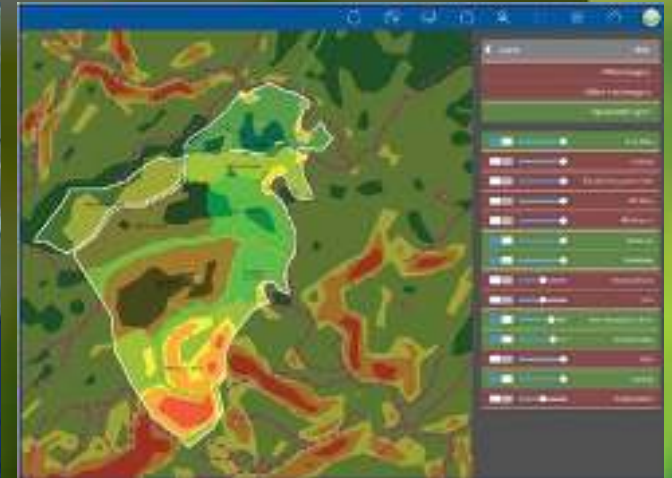
TIAKI FARM ENVIRONMENT PLANS ARE TAILORED TO EACH FARM WITH VISUAL ELEMENTS ENABLED BY WORLD CLASS TECHNOLOGY



WATERWAYS MAP



FARM MANAGEMENT
BLOCK MAP



LAND SLOPE MAP

IDENTIFYING CRITICAL SOURCE AREAS

15 RACE CROSSING POINT 2



Description:
A narrow track crossing (100) of a stream, used which is used by the local community. This crossing point is a critical control and pooling point for sediment runoff from the upland area and surrounding area.

Risk Type:
Sediment, Phosphorus, Pathogen

Actions:
Over 100 trees shall plant as a riparian forest.
Overhead wire shall be removed. The upper of the crossing shall be modified to reduce sediment runoff as crossing point by October 2017.
If an up stream the runoff by October 2017 or water assessment can be reduced to a high level of risk and riparian forest shall be planted.

Contaminant Loss Risk:
Low -> Med/Low -> High/Low -> High

Risk of Reaching Surface Water:
Low -> Med/Low -> High/Low -> High



- A map displays where critical source areas are located
- Each area is detailed in the report:
 - ✓ Photos
 - ✓ Description
 - ✓ Risk Management Actions

SUMMARY OF ACTIONS TABLE

SUMMARY OF OPEN ACTIONS					
YEAR	TARGET DATE	CATEGORY	FEATURE TYPE	ACTION NAME	RISK RATING
2017	1805	Land Management	Race Management	Don't know	High
	3107	Waterways	Farm Pond	Tape Gate	Medium
	3009	Land	Race Management	Race Outlets	Critical
	3009	Land	Race Management	Race Improvements	High
2018	1805	Waterways	Unfenced Crossing Point	Fencing Required	High
	3107	Effluent	Effluent Storage	Sump Level Warning	High
	3009	Effluent	Effluent Storage	Farm Warning System	High
	3009	Effluent	Effluent Storage	Pond Level Indication	High
	3009	Land	Race Management	Tape Gate	Medium
2019	1805	Waterways	Farm Pond	Bank Stabilisation	Medium
	3107	Land	Race Management	Crossing Improvements	High
	3009	Land	Race Management	Sediment Control	High
	3009	Land	Silage Storage	Infrastructure Improvement	Low
ONGOING	-	Land Management	Race Management		High
	-	Land Management	Race Management		High
	-	Land Management	Race Management		High
	-	Land Management	Race Management		High

90% of polled farmers agreed that FEPs are effective in identifying actions and practices that could be practically implemented.

100% agreed or strongly agreed that they intend to use the FEP as a tool to manage contaminant loss on their property.

A photograph of a person in a dark jacket leaning over to examine a plant in a field. The image is overlaid with a semi-transparent dark green rectangle containing white text.

TIAKI reflects our commitment to our farmers
and to achieve greater on-farm sustainability

TIAKI
is about
being a
responsible
Co-operative

TIAKI
leverages our
world
class tools
and capability

TIAKI
is about
developing and
delivering
solutions



Agenda Memorandum

Date 30 April 2018



**Memorandum to
Chairperson and Members
Policy and Planning Committee**

**Subject: State of the Environment Monitoring of
Lake Rotorangi water quality and
biological programme Annual Reports
2016-2018**

Approved by: G K Bedford, Director-Environment Quality

B G Chamberlain, Chief Executive

Document: 2242251

Purpose

The purpose of this memorandum is to present a report prepared by staff, on the ecological and physico-chemical state of Lake Rotorangi as determined in the 2016-2018 programme monitoring the state of the lake, and trends in that quality since monitoring first began in 1984. The Executive Summary of the report '*State of the Environment Monitoring of Lake Rotorangi water quality and biological programme Annual reports 2016-2018, Technical Report 2018-90*' is attached to this memorandum, and the full report is available upon request and on the Council's website. Lake Rotorangi, the region's largest, is monitored for both consent compliance and for state of the environment monitoring purposes, through a programme financed in part by TrustPower, the consent holder for the Patea Hydroelectric Scheme.

Executive summary

The Council's 'Regional Freshwater Plan for Taranaki' (October 2001) states as two of its objectives for the regional community, 'to maintain and enhance the quality of the surface water resources of Taranaki by avoiding, remedying or mitigating the adverse effects of contaminants discharged to land and water from point-sources.... and diffuse sources' (Objectives 6.2.1 and 6.3.1). In doing so, the Council and community seek to provide for the values associated with surface water, and to ensure the maintenance of aquatic ecosystems (Environmental Results Anticipated ER1).

In order to ascertain the successful adoption and application or otherwise of the Council's policies and methods of implementation, the Council conducts 'state of the environment' (SEM) monitoring to obtain up to date robust information for parameters that characterise the region's environment and resources. The results and findings of the SEM programme for the region's freshwater systems can be interrogated to determine trends and changes in trends in the quality of the region's freshwater resources, alongside the information on the current 'state' of the region's physicochemical parameters that SEM generates.

The state of Lake Rotorangi is determined each year, through four water quality monitoring surveys and through phytoplankton, benthic invertebrate, and macrophyte (aquatic weeds) surveys.

Based on these surveys and studies, the lake's condition continues to be classified as mesotrophic, with no change showing in trophic level over the period 1990-2017. If the trend in some individual nutrient metrics continues, then in the very long term future the lake might become more eutrophic ie mildly nutrient enriched, but this is considered unlikely given the lake displays only moderate levels of chlorophyll. Phytoplankton densities continue to be low, restricted by lack of nutrients and by freshes (which shorten residence times and flush existing communities). Phytoplankton was non-existent after the June 2015 floods.

The Council released its last 'omnibus' 'state of the environment' report in 2015. The report being presented today updates the data presented therein. The report's recommendation is that the programme continues as currently designed, including the incorporation of elements that are implemented on an occasional basis.

Recommendations

That the Taranaki Regional Council:

1. receives this memorandum noting the preparation of a report into the state of the water quality and biological programme of Lake Rotorangi as determined in monitoring during 2016-2018
2. notes the findings of the SEM programme
3. adopts the specific recommendation therein.

Background

This Committee has been regularly informed of the findings that emerge from the Council's various freshwater 'state of the environment' monitoring programmes. These programmes are important as indicators of the effectiveness of the Council's and community's interventions and resource management initiatives addressing freshwater quality in the region. Members will be aware that there is a high level of interest nationally in the state and management of the country's fresh water resources (in both rivers and lakes).

The Council's 'Regional Freshwater Plan for Taranaki' deals with lake and river water quality jointly as 'surface water' quality. The three objectives most relevant are as follows:

'Objective 6.1.1: To promote the sustainable management of the surface waters of Taranaki while avoiding, remedying or mitigating any actual or potential adverse effects from the taking, use, damming or diversion of surface water;

Objective 6.2.1: To maintain and enhance the quality of the surface water resources of Taranaki by avoiding, remedying or mitigating the adverse effects of contaminants discharged to land and water from point sources;

Objective 6.3.1: To maintain and enhance the quality of the surface water resources of Taranaki by avoiding, remedying or mitigating the adverse effects of contaminants discharged to land and water from diffuse sources.'

Under 'levels of service' in the Resource Management section within the Council's 2015-2025 Long Term Plan, item 3 ('maintenance and enhancement of overall water quality in our rivers and lakes, groundwater and coastal waters') includes:-

Measure: physicochemical and biological parameters for quality of Lake Rotorangi

Target (years 1-10): the trophic state (an indication of the ecological condition as affected by nutrient enrichment) of Lake Rotorangi to remain as it was in 1988 (mesotrophic/mildly eutrophic, or the middle category of trophic states).

Baseline: the current life-supporting capacity of the lake is stable and relatively healthy (better than almost 2/3 of lakes monitored nationally). State of lake shown to continue to be mesotrophic/mildly eutrophic.

Lake Rotorangi is an artificial lake (as are four of the region's other significant lakes- Mangamahoe, Ratapiko, Opunake, and Rotomanu), and the Council's management of its quality is in part through the conditions imposed within consents held by TrustPower. Because of their use for generation purposes, most of these lakes tend to have a relatively high through-flow and are therefore less susceptible to potential water quality issues than might otherwise be the case.

The Committee has previously (2007) received information from a national survey on the state of New Zealand's lakes, together with information about how Lake Rotorangi compares. For comparative purposes (to the extent that comparisons are meaningful for lakes of varying hydrological, geological, and meteorological function and character), that data is re-produced below. The Government's latest review of water quality in lakes across New Zealand (*New Zealand's Environmental reporting Series: Our fresh water 2017*) included data from only 5 regions.

Of the 134 lakes assessed for trophic status in 2007, their categorisation is shown in the table below, along with the state of Lake Rotorangi.

State	More impacted < - - - - - >more pristine					
	Hyper-trophic	Super-trophic	Eutrophic	Meso-trophic	Oligo-trophic	Micro-trophic
Taranaki (L. Rotorangi)				Yes		
All NZ	18 (13%)	13 (10%)	44 (33%)	21 (16%)	25 (19%)	13 (10%)
MfE 2017 (5 regions-65 lakes)	37%		25%		37%	

Discussion

One of the Council's 'State of the Environment' monitoring programmes measures the ecological and water quality state of Lake Rotorangi, as an example of the state of lakes in the region. Monitoring of the lake has been undertaken since its construction in 1984, with reporting to the Council since 1988. Reporting was initially by way of consent compliance reporting, up until 2010-2011, with subsequent lake monitoring being reported as a state of the environment annual report, partially financed by TrustPower.

Staff have now reported the data for the 2016-2018 years, including an analysis of trends in the trophic state of the lake over the period 1984-2017.

Changes in thermal stratification (layers of distinct water quality within the lake, typified by low oxygen and low temperature at depth during warmer months) during the two years were largely similar to that typically recorded in previous surveys of this reservoir-type lake. Thermal stratification was beginning to form at both sites during each of the spring surveys, but especially at the mid-lake site, and was typically well developed during late summer - autumn at the mid and lower lake sites, with dissolved oxygen depletion measured in the lower waters of the hypolimnion at both sites. The 2017 winter survey recorded limited oxygen depletion at the mid site. This is an atypical result, and was caused by the significant flooding and consequent turbulent mixing (June 2017) that preceded this survey at the mid-lake site. Complete depletion was noted at the lower lake site at this time. Partial overturn was apparent at the lower lake site in spring 2017 (a degree of re-oxygenation was evident), before the re-establishment of stratification.

The process of overturn re-oxygenates the deeper parts of the lake, and also brings minor amounts of phosphorus solubilised from sediment under anaerobic conditions to the surface, potentially promoting algal growth in spring. Despite mild nutrient enrichment in the lake overall, during the monitoring years phytoplankton richnesses (diversity) were low to moderate, coincident with low to moderate chlorophyll-a levels. The main limiting factors for communities within the lake probably continue to be plant nutrient availability and frequency of river freshes.

The lake biologically continues to exhibit mesotrophic conditions, bordering on eutrophic, rather than having become eutrophic as was originally predicted during the process associated with granting the original water rights (consents), in spite of high turbidity (due to river silt) and associated elevated nutrients (which are primarily present in total, but not in dissolved, forms). Trend analysis shows slow increases in chl-a, total phosphorus (when calculated across both sites), and nitrate; dissolved reactive phosphorus, ammonia, total nitrogen, and the trophic level indicator TLI are not showing a trend.

In 2017, the Government released the *National Policy Statement for Freshwater Management 2017* (NPS-FW). The NPS-FW contains within it water quality attribute tables, which stipulate criteria by which the water quality in lakes must be measured and reported. To meet the NPS objectives, the attribute for phytoplankton (as an indicator of ecosystem health) is assessed in terms of the concentration of **chlorophyll-a**. Excessive chl-a indicates over-enrichment of the lake's ecosystem. Attribute state A requires the annual median of measured chl-a to be <2 mg/m³, with any maximum within a year to be <10; the B state requires <5 and <25; C state <12 and <60; results above these last limits are deemed to exceed the national bottom line. In Lake Rotorangi, site L2 has a median of 2.6 and a maximum of 13.9 mg chl-a/m³; site L3 has a median of 2.2 and a maximum of 13.4 mg chl-a/m³. In 2016-2017, results for the four seasonal surveys were somewhat higher than typical but with lower maxima; in the 2017-2018 year results were more variable, with site L3 having higher than usual concentrations. Over both the last 2 years and over the long term, the lake sits in the B state but just outside both the NPS A state median and A state maximum limits for chl-a. Nationwide, 63% of the lakes reported by MfE in 2017 were in or below the B attribute state.

To meet the NPS objectives, one attribute used as an indicator of ecosystem health is the concentration of **total nitrogen**. Attribute state A requires the annual median to be <160 mg/m³; the B state requires 160-350 mg/m³; and C state 350-750 mg/m³. Results above these latter limits are deemed to exceed the national bottom line for total nitrogen in lakes. In Lake

Rotorangi, sites L2 and L3 sit in the middle of the C total nitrogen attribute state. Nationwide, 35% of the lakes reported by MfE in 2017 were in or below the C attribute state.

To meet the NPS objectives, another attribute used as an indicator of ecosystem health is the concentration of **total phosphorus**. Attribute state A requires the annual median to be <10 mg/m³; the B state requires 10-20 mg/m³; and C state 20-50 mg/m³. Results above these latter limits are deemed to exceed the national bottom line for total phosphorus in lakes. In Lake Rotorangi, sites L2 and L3 sit respectively at the lowest end of the C total phosphorus attribute range and towards the higher end of the B attribute range. Nationwide, 37% of the lakes reported by MfE in 2017 were in or below the C attribute state.

To meet the NPS objectives, another attribute used as an indicator of ecosystem health is the potential toxicity of **ammonia** (expressed as ammonium). Attribute state A requires the annual median to be <0.03 g/m³ and the maximum to be <0.05 g/m³; the B state requires 0.03-0.24 g/m³ and < 0.40 g/m³; and the C state 0.24-1.30 g/m³ and < 2.20 g/m³. Concentrations higher than these latter limits are deemed to exceed the national bottom line for ammonia in lakes. In Lake Rotorangi, sites L2 and L3 sit in the middle of the B grade ammonia attribute range. Nationwide, 17% of the lakes reported by MfE in 2017 were in or below the B attribute state.

To meet the NPS objectives, an attribute used to assess suitability for recreational use is the concentration of *E coli*. The NPS has 4 separate metrics that *E coli* measurements must meet. While the monitoring programme at Lake Rotorangi does not align with the NPS methodology (monthly for the latter, seasonally for the former), the results lie universally in the A grade for each of the 4 swimmability criteria.

Thus, Lake Rotorangi meets the NOF A grade criteria for swimmability (*E coli*), the NOF B grade criteria for phytoplankton, ammonia, and partially for total phosphorus; and the C grade criteria for total phosphorus (partially) and total nitrogen. The lake does not fail any NOF attribute. Of the lakes reported nationally in 2017, around 16% of lakes fail one or more attributes.

In terms of improving water quality within Lake Rotorangi, the key is to constrain inputs into the lake. This is being achieved through the adoption of riparian and hill country management interventions by the Council and community. As at June 2018, some 231 riparian plans have been prepared by the Council in relation to properties within the Patea River sub-catchment. An additional three plans have been produced for properties in the Mangaehu River sub-catchment, upstream of the lake. Within these plans, some 1008 km of Patea catchment riverbank [71% of the total banks' length] and 26 km of Mangaehu stream banks [54%] currently have adequate riparian protection provided on the properties covered by the plans. This represents an increase of 143 km in the Patea catchment and 7 km in the Mangaehu catchment over the past three years. Outside of the properties covered by riparian plans there are a further 51% and 98% of streambanks in the Patea and Mangaehu catchments, respectively, with some (natural) degree of riparian protection, or landowner fencing/planting that is not covered by a Council-prepared riparian plan. Within the catchment area, 46,908.9 ha (54%) is covered by Hill Country plans, addressing land management and sediment issues.

As has also been the case in previous years, there were no phytoplankton blooms in the lake during the period under review. Phytoplankton community composition tends to reflect environmental conditions prevailing at the time of each survey, rather than showing any

long-term trends. Any proliferation tends to be opportunistic and short-lived. A low to moderate range of numbers of taxa was generally found at both sites on each occasion (similar to or slightly higher than the long-term median), with the highest number of taxa being found at site L2 in late summer 2018.

An aquatic macrophyte survey was conducted in April 2018. Surveys are triennial. The latest survey reported less macrophyte density than previously. Oxygen weed (*Egeria densa*) has been the dominant weed within the lake, but in the latest survey it has been overtaken by the highly invasive weed hornwort (*C. demersum*). The latter was first found in a lake survey in April 2012. While a report by NIWA found that hornwort is considered unlikely to significantly adversely affect the hydroelectric power scheme or the lake's ecology, its presence raises the risk of transfer to other lakes where it could pose a greater threat. Signs are up along the lake reminding users of their responsibilities to prevent transfer of weeds and the Council has intensified its biosecurity education, communication, and advocacy activities in conjunction with DOC and MPI.

Macroinvertebrate surveys indicate very sparse populations within the lake sediments, which is consistent with oxygen depletion.

The report concludes by recommending:-

That the Lake Rotorangi physicochemical and biological water quality monitoring programme continue on an annual basis as a component of the Council's State of the Environment Monitoring programme, with every third year of the programme also undertaken in conjunction with the Patea Hydro Electric Power Scheme- aquatic monitoring plan (next in 2020-2021), and that the requisite macrophyte and benthic macroinvertebrate surveys be components of the 2020-2021 programme.

Decision-making considerations

Part 6 (Planning, decision-making and accountability) of the *Local Government Act 2002* has been considered and documented in the preparation of this agenda item. The recommendations made in this item comply with the decision-making obligations of the *Act*.

Financial considerations—LTP/Annual Plan

This memorandum and the associated recommendations are consistent with the Council's adopted Long-Term Plan and estimates. Any financial information included in this memorandum has been prepared in accordance with generally accepted accounting practice.

Policy considerations

This memorandum and the associated recommendations are consistent with the policy documents and positions adopted by this Council under various legislative frameworks including, but not restricted to, the *Local Government Act 2002*, the *Resource Management Act 1991* and the *Local Government Official Information and Meetings Act 1987*.

Iwi considerations

This memorandum and the associated recommendations are consistent with the Council's policy for the development of Māori capacity to contribute to decision-making processes (schedule 10 of the *Local Government Act 2002*) as outlined in the adopted long-term plan

and/or annual plan. Similarly, iwi involvement in adopted work programmes has been recognised in the preparation of this memorandum.

Legal considerations

This memorandum and the associated recommendations comply with the appropriate statutory requirements imposed upon the Council.

Appendices/Attachments

Document 2241704 (excerpt attached): State of the Environment Monitoring of Lake Rotorangi Water Quality and Biological Programme Annual Reports 2016-2018, Technical Report 2018-90 (Executive Summary and Recommendations).

State of the Environment Monitoring of Lake Rotorangi Water Quality and Biological Programme Annual Report 2016-2018, Technical Report 2018-90

Executive summary

Lake Rotorangi was formed in May 1984 by the construction of an earth fill dam on the Patea River for hydro-electric power generation. During the process of obtaining planning consents, it was recognised that, although a regionally significant recreational resource would be formed, considerable environmental impacts might also occur. Consequently, a comprehensive monitoring programme was developed and implemented for the lake. This report presents the results of the twenty-seventh and twenty-eighth years of this monitoring. Four water quality sampling surveys were performed at two sites each year during the 2016-2017 and 2017-2018 periods. The first of the two sites surveyed is located in the mid reaches of the lake, while the second site is located nearer to the dam.

Changes in thermal stratification during the year in both periods were largely similar to that typically recorded in previous surveys of this reservoir-type lake. Thermal stratification was beginning to form at both sites during the spring surveys, and was well developed during the late summer-autumn at the mid and lower lake sites, with dissolved oxygen depletion measured in the lower waters of the hypolimnion at both sites. Oxygen depletion remained evident in winter at the lower lake site. Lake overturn had not occurred completely at the lower lake site by the time of the winter surveys, although water temperatures were uniform throughout the water column. These conditions have been typical of this reservoir-type lake on most occasions to date.

During the monitoring period, phytoplankton richnesses (diversity) were low to moderate, coincident with low to moderate chlorophyll-a levels. The main limiting factors for communities within the lake probably continue to be plant nutrient availability and frequency of river freshes. A very sparse macroinvertebrate fauna has been found amongst the fine sediments of the deeper lake sites where only those taxa able to tolerate lengthy periods of very low dissolved oxygen levels have been recorded.

An autumn 2018 macrophyte survey identified the oxygen weed *Egeria densa* as the dominant macrophyte in the lower part of the lake. The other species recorded as dominant was *Ceratophyllum demersum* (hornwort), in parts of the mid-section of the lake. *Lagarosiphon major*, which had been recorded in all previous surveys, was not found, possibly as a result of the high turbidity at the time of the survey. Hornwort, which was first recorded in the 2012 survey and had increased markedly at the time of the 2015 survey, was not recorded to have extended beyond the mid-section in the 2018 survey. It had been predicted that hornwort will eventually become dominant, out-competing *E. densa* and *L. major*. While this is not expected to cause significant impacts on the ecology of Lake Rotorangi or on the hydro-electric scheme, there is now greater potential for it to spread to nearby lakes, where such impacts could be much more severe, e.g. Lake Rotokare. The next macrophyte survey of Lake Rotorangi is due to be performed in the 2020-2021 period.

Lake condition, in terms of lake productivity, continued to be within the category of mesotrophic to possibly mildly eutrophic (mildly nutrient enriched). However, taking into account the influence of suspended sediment in this reservoir, and the moderately low chlorophyll levels, the classification is more appropriately mesotrophic. Previous trending of these water quality data over time found a very slow rate of increase in trophic level. An

update of the trend report (for the period 1990-2017) has confirmed this very slow, insignificant rate of increase in trophic level. This also confirmed that the lake would be classified as mesotrophic in terms of its biological condition.

The monitoring programme will continue in its present format for state of the environment reporting purposes with regular (3-yearly) additional biological components (e.g. macrophyte survey) for consent compliance purposes. This report also includes recommendations for the 2018-2019 monitoring year.

Recommendation

The following recommendation is based on the results of the 2016-2017 and 2017-2018 water quality and biological monitoring programmes and the contractual requirements of the resource consents held by Trustpower for the Patea Hydro Electric Power Scheme on Lake Rotorangi:

1. THAT the Lake Rotorangi physicochemical and biological water quality monitoring programme continue on an annual basis as a component of the Council's state of the environment monitoring programme, with every third year of the programme also undertaken in conjunction with the Patea Hydro Electric Power Scheme - aquatic monitoring plan (next in 2020-2021), and that the requisite macrophyte and benthic macroinvertebrate surveys be components of the 2020-2021 programme.

Whakataka te hau

Karakia to open and close meetings

Whakataka te hau ki te uru	Cease the winds from the west
Whakataka te hau ki tonga	Cease the winds from the south
Kia mākinakina ki uta	Let the breeze blow over the land
Kia mātaratara ki tai	Let the breeze blow over the ocean
Kia hī ake ana te atakura	Let the red-tipped dawn come with a sharpened air
He tio, he huka, he hauhu	A touch of frost, a promise of glorious day
Tūturu o whiti whakamaua kia tina.	Let there be certainty
Tina!	Secure it!
Hui ē! Tāiki ē!	Draw together! Affirm!

Nau mai e ngā hua

Karakia for kai

Nau mai e ngā hua	Welcome the gifts of food
o te wao	from the sacred forests
o te ngakina	from the cultivated gardens
o te wai tai	from the sea
o te wai Māori	from the fresh waters
Nā Tāne	The food of Tāne
Nā Rongo	of Rongo
Nā Tangaroa	of Tangaroa
Nā Maru	of Maru
Ko Ranginui e tū iho nei	I acknowledge Ranginui above and
Ko Papatūānuku e takoto ake nei	Papatūānuku below
Tūturu o whiti whakamaua kia	Let there be certainty
tina	Secure it!
Tina! Hui e! Taiki e!	Draw together! Affirm!