



## Nelson Regional Sewerage Business Unit

16 September 2022

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**Report Title: Nelson Regional Sewerage Business Unit Annual Report 2021/2022**

**Report Author: Nathan Clarke - General Manager Regional Sewerage and Landfill**

**Report Number: R27151**

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### 1. Purpose of Report

1.1 This report is to provide a summary of the annual performance of the Nelson Regional Sewerage Business Unit (NRSBU).

### 2. Summary

2.1 The NRSBU achieved a surplus of \$1,166,531 compared to a budget surplus of \$1,531,000.

2.2 The principal driver for the variation was the significant change in fixed income, and the increases in O&M costs and consulting costs.

2.3 Fixed income decreased significantly with a deficit compared to budget of \$474,883

2.4 Operating and maintenance costs were 9.9% under budget. Contract maintenance was over budget by \$304,000 but this was more than compensated by reactive maintenance being under budget by \$436,000.

2.5 Budget increases were caused by increased electrical costs, and increased consulting costs.

2.6 Capital expenditure for the year totalled \$8,204,596 and included the installation of the effluent recycling facility, screening wash upgrades, inlet odour treatment upgrades, pond de-sludging, sea protection bund construction, road renewals, pump station overflow screens and flooding resilience, and the installation of two sections of the regional rising main upgrade.

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- 2.7 Odour generation from the WWTP has generally been minor, with no notifications received that were deemed to exceed consent parameters.
- 2.8 There were several odour reports received relating to biosolids application. The independent odour auditors' services were engaged to verify these reports. As a result of three confirmed odour reports biosolids application was relocated to mitigate odour generation.
- 2.9 There was a short period of pond instability during the seasonal change over that resulted in some odour production.
- 2.10 Odour patrols carried out by an independent contractor have demonstrated that the residual odours at the treatment plant have been significantly reduced.
- 2.11 The effluent discharge quality has met the consent conditions for the year.
- 2.12 There was period where NRSBU requested permission to extend the discharge from the facility when inflows in excess of the discharge capacity occurred for a prolonged period.
- 2.13 The sludge treated at Bell Island consistently met the requirements for A Grade biosolids.
- 2.14 The operation and maintenance contractor maintained a high level of Health and Safety vigilance. There were no lost time injuries this year.

### **3. Recommendation**

#### ***That the Nelson Regional Sewerage Business Unit***

- 1. Receives the report Nelson Regional Sewerage Business Unit Annual Report 2021/2022 (R27151); and***
- 2. Approves the Nelson Regional Sewerage Business Unit 2021/22 Annual Report (R27151) and Nelson Regional Sewerage Business Unit – Annual Financial Statements 2021/22 (1080325921-64) for presentation to Nelson City Council and Tasman District Council with delegation of all minor amendments to the Nelson Tasman Regional Landfill Business Unit Chairperson and General Manager.***

Recommendation to the Nelson City Council and Tasman District Council

#### ***That the Nelson City Council and Tasman District Councils***

- 1. Receive the Nelson Regional Sewerage Business Unit Annual Report 2021/22 (R27151) and its attachment, the Nelson Regional Sewerage Business Unit – Annual Financial Statements 2021/22 (1080325921-64).***

#### 4. Discussion

4.1 Monitoring is undertaken by the NRSBU to assess performance for the facility, and to help assess the capacity of the system. This performance monitor is used to help assess where improvements or upgrades are needed.

4.2 Level of Service Performance

4.2.1 The levels of service recorded over the past three years have stayed reasonably consistent. The following table summarises compliance of the levels of service.

1. Table 1: Performance against measures outlined in the 2021/2022 Business Plan

Performance Measure (from 2021/22 Business Plan)	Target	Performance against target
Pond free water above sludge layer.	>1m in all ponds by 2023	In progress - Pond F2 completed
Chemical Parameters comply with consents for discharge to water when discharge occurs.	Ongoing consent compliance for all parameters	All parameters in Compliance for 2020/2021
Effluent quality appropriate for safe and sustainable use with land irrigation systems.	Pathogens, Nitrogen defined for land application requirements by 2023	All Parameters in compliance with resource consent for discharge to land.
Obtain reuse consents for appropriate land areas for Reuse Water.	Demonstrated quality performance and consents in place for reuse for dust suppression by June 2024	Resource consent application in progress for Greenacres Golf course.
We have up to date plans as follows:  Master plan (50 years focus)  Activity Plan (10 years Focus)  Business plan (1 year focus, but also with tentative three year actions)	All plans are live and are reviewed annually	Being developed in consultation with TDC and NCC and Iwi  Approved in 2022. No significant change to the plan has occurred, however delay has occurred with the implementation of some capital projects.  Plan for 2022/2023 approved, and draft Plan for 2023/2024 has been prepared for approval.
The number of alternate methods/options for biosolids disposal.	One by 2035	Resource Consent for Biosolids Application to land is in progress. Hearings delayed due to ill health of one commissioner.
Increase in quality of biosolids.	Biosolids Reuse Development Plan Draft by 2023	Biosolids quality assessment has been undertaken as part of the resource consent process. Improvements to monitoring have been identified and are being implemented.

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<b>Performance Measure (from 2021/22 Business Plan)</b>	<b>Target</b>	<b>Performance against target</b>
Percentage of biosolids that is reused.	100%	Achieved. All biosolids being reused for fertiliser. Sludge from facultative ponds is being used to create sea defence bund.
Annual volume of biosolids sold.	Biosolids Reuse Development Plan Draft by 2023	Annual biosolids production for 2021/2022 was 36,000m <sup>3</sup> . All biosolid was disposed to Moturoa Rabbit Island. No biosolids was sold for reuse
Proportion of biosolids to land or reuse/sale	100%	All biosolids was reused on Rabbit Island.
Number of days effluent is discharged to water in summer period (1 Dec to 31 March).	Draft Wastewater reuse plan developed by 2023, with a goal to reaching zero by 2035	Discharge to water occurred every day during the summer 2021/2022. Reuse occurred in the Bell Island irrigation system for 67 days with 36,110m <sup>3</sup> of wastewater applied during this time.
Volume of high-value water-reuse we achieve.	Draft Wastewater reuse plan developed by 2023	Water reuse plan not yet complete. Work is being undertaken to develop additional reuse options with Nelson Pine Industries, Greenacres Golf Course, and the Saxton Field Committee.
Amount of total flow we can divert from discharge to water.	At least 75 <sup>th</sup> percentile by 2040	Currently NRSBU can only divert 1,000 m <sup>3</sup> per day for reuse in the Bell Island irrigation system. Work is being undertaken to reuse an additional 250 m <sup>3</sup> per day at Greenacres during the 2022/2023 summer.

### 5. Additional Performance measures

5.1 Table 2 outlines performance measures to compare performance against previous years

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2. Table 2: Performance measures compared to previous years

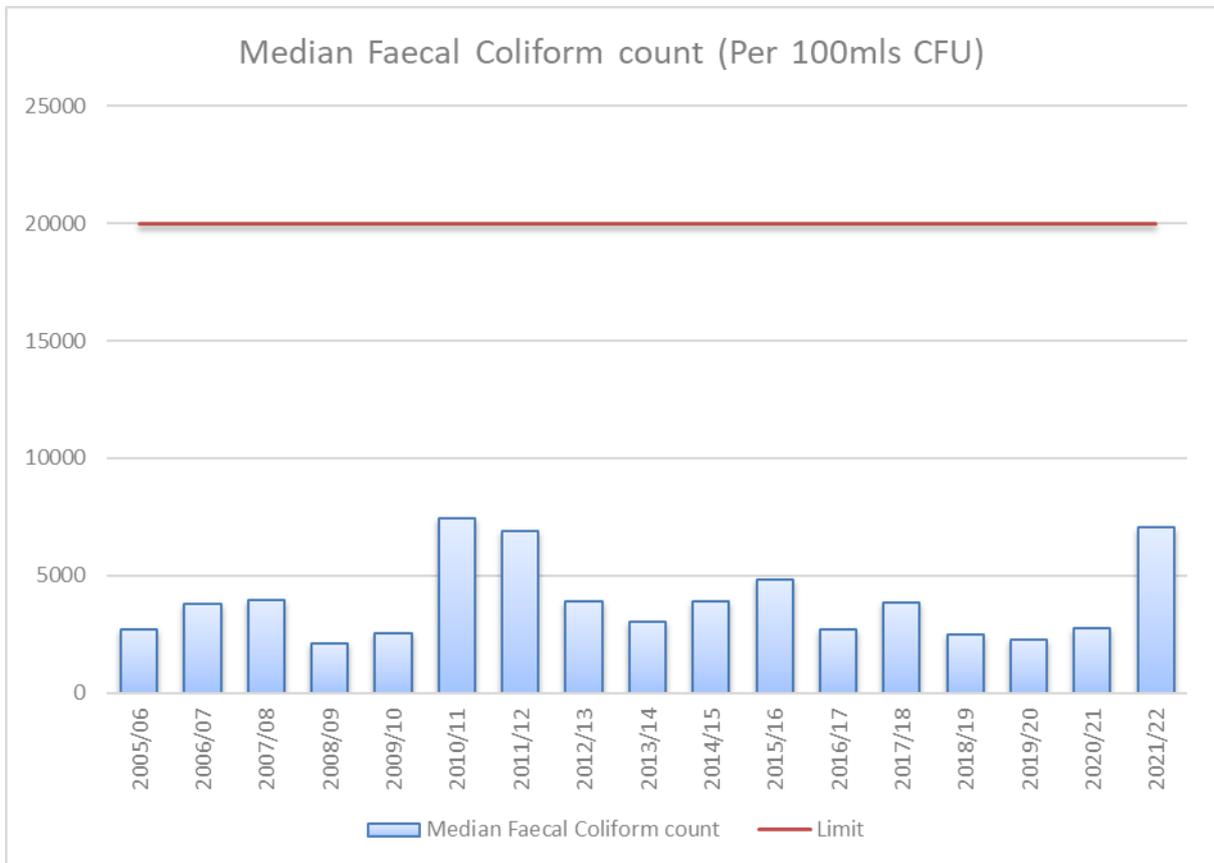
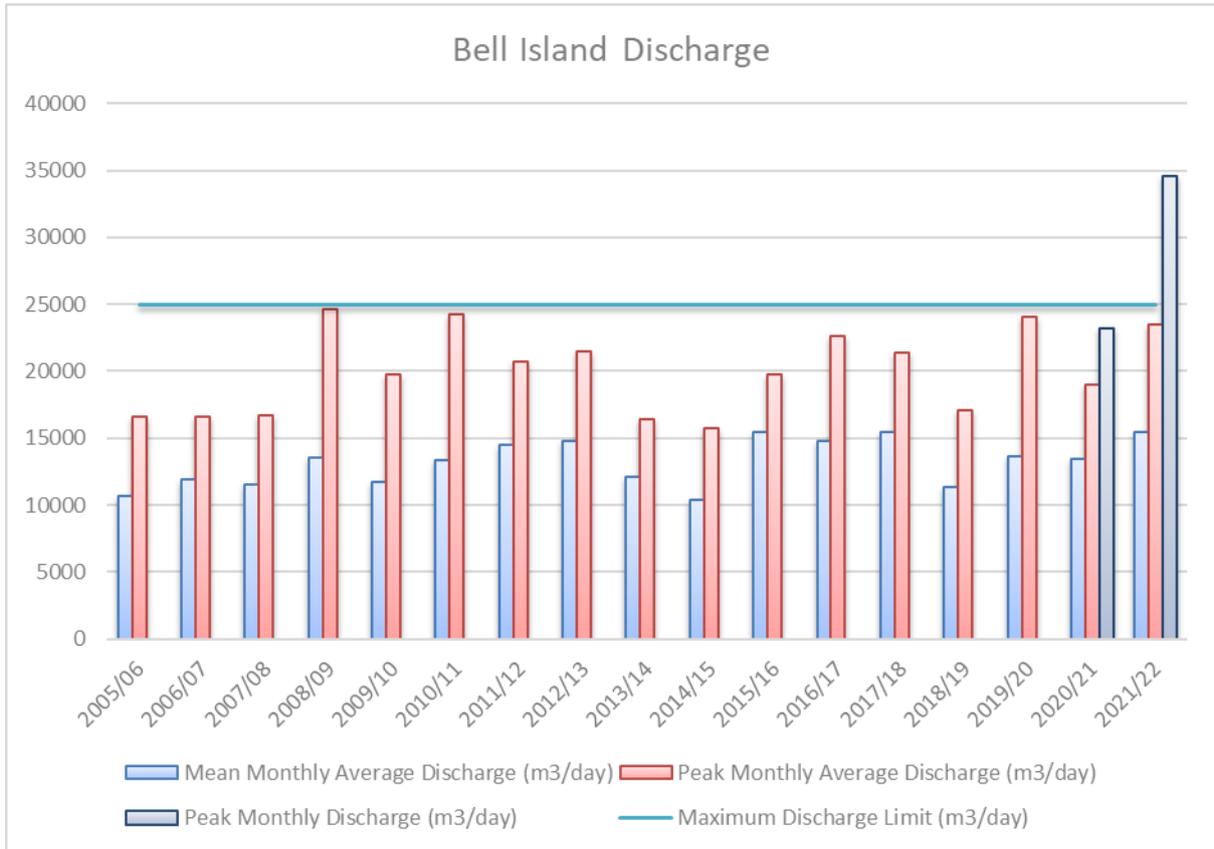
Level of Service	Function	Target Technical Level of Service	Compliance		
			2019/20	2020/21	2021/22
Environmental Impacts	Treatment and Disposal	RMA Consent - Discharge to water	No	Yes	Yes
		RMA Consent - Discharge Volume	Yes	No	No
		RMA Consent - Discharge to Air	No	Yes	Yes
		RMA Consent - Discharge to Land	Yes	Yes	Yes
	Pump stations	RMA Consent - Aberrational Discharge	No <i>note 1</i>	No <i>note 1</i>	No <i>note 1</i>
		Odour Complaints from Pump stations	Yes	Yes	Yes
		Pumpstation overflows	Yes	No	No
		Reticulation Breaks/ Issues	Yes	Yes	Yes
		Air Valve Malfunctions	Yes	Yes	Yes
Capacity	Treatment and Disposal System	System Capacity - Load	Yes	Yes	Yes
		System Capacity - Flow	Yes	No	No
	Pump Stations	Overloading system capacity <i>Note 2</i>	Yes	Yes	Yes
Reliability	Treatment and Disposal	No equipment failures that could lead to noncompliance with Resource Consents	Yes	Yes	Yes
	Pump stations		Yes	Yes	Yes
	Pipelines		Yes	Yes	Yes
	Biosolids		Yes	Yes	Yes

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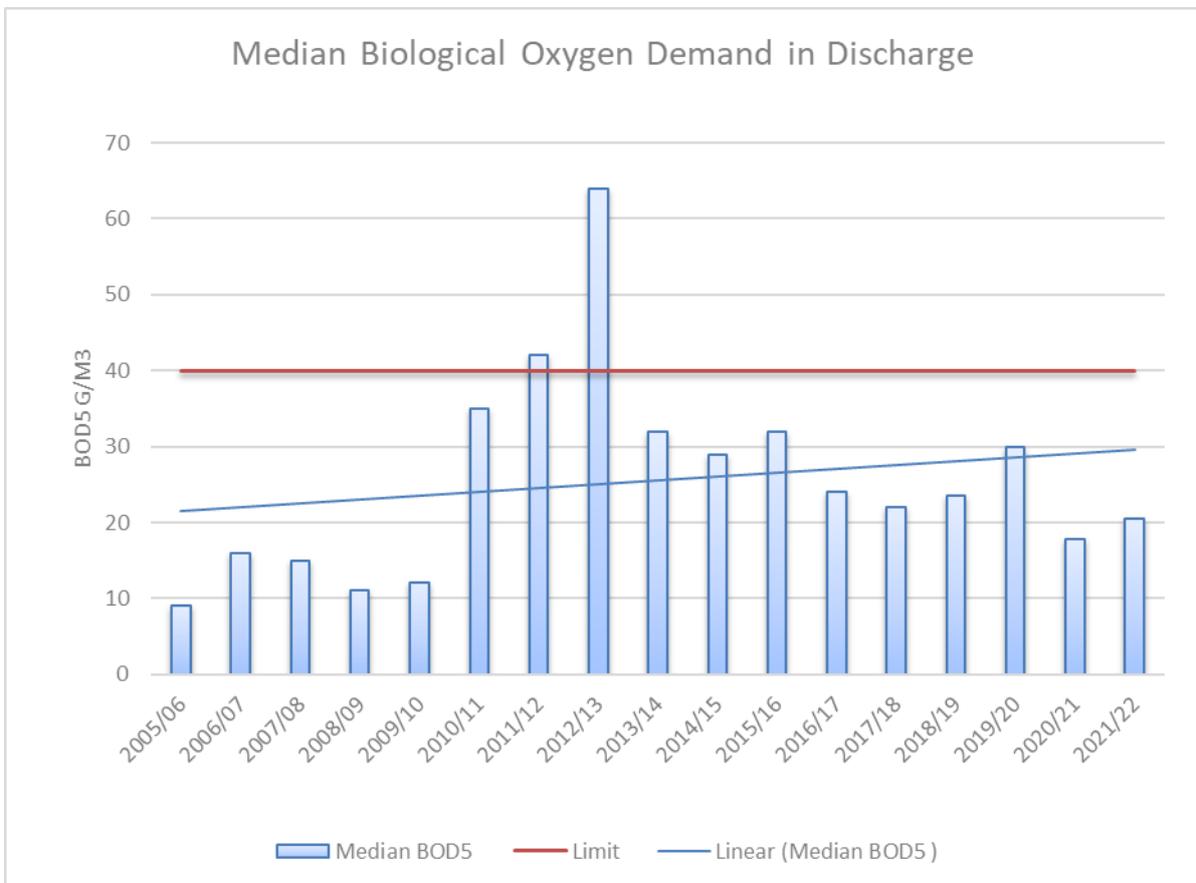
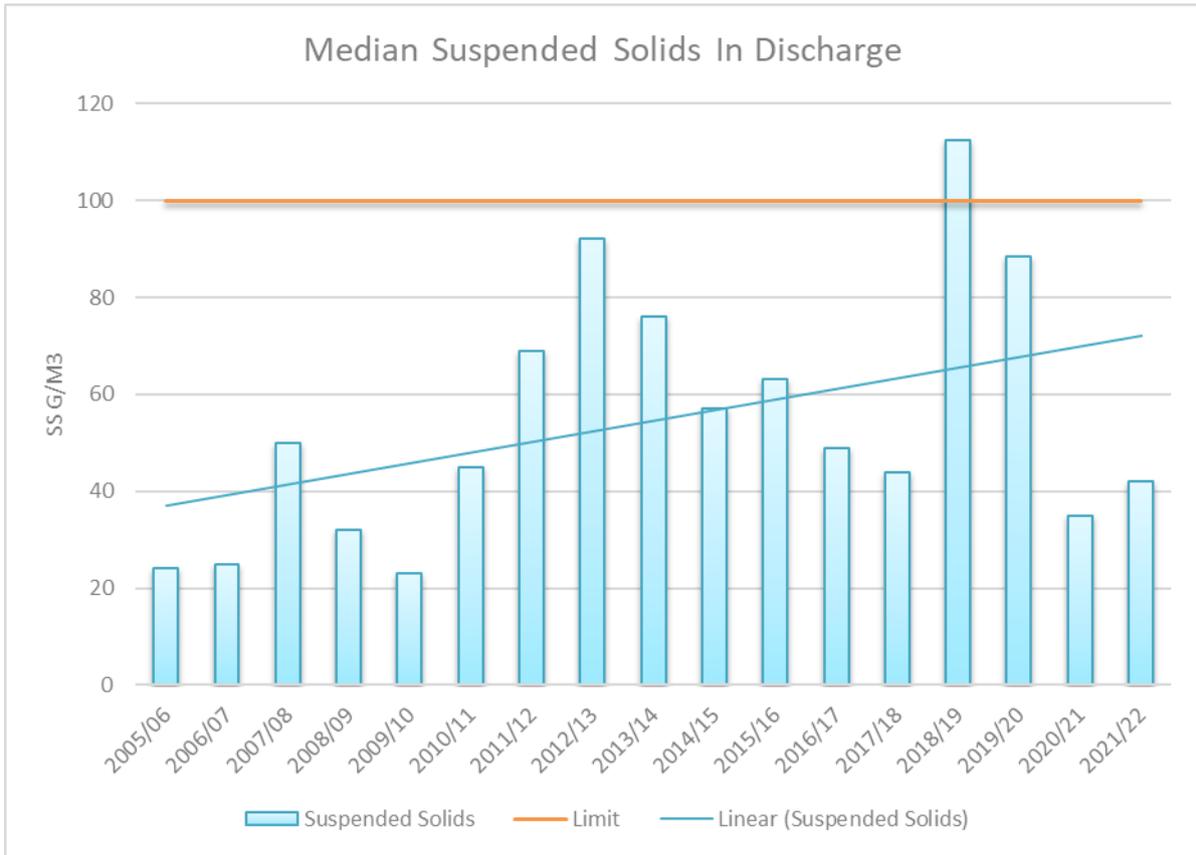
Responsiveness	Speed of Response to Emergency and urgent maintenance works	Achievement of response times specified within Operations and Maintenance Contract	Yes	Yes	Yes
	Speed of Response to routine and programmed works	Achievement of response times specified within Operations and Maintenance Contract	Yes	Yes	Yes
Key Contributor Relationships	Treatment and Disposal	Overall Satisfaction	Yes	Yes	Yes
	Pumpstations		Yes	Yes	Yes
	Pipelines		Yes	Yes	Yes
	Biosolids		Yes	Yes	Yes
Notes	<p>1. <i>Consent non-compliance relates to provision of Cultural Health Indexing (CHI). NRSBU have been unable to get commitment from iwi to complete the required CHI.</i></p>				
	<p>2. <i>Compliance relates to provision of capacity to TDC. NRSBU has sold capacity to Tasman District Council, and any overflows from Beach Road pumpstation exceed this capacity so remain the responsibility of TDC.</i></p>				

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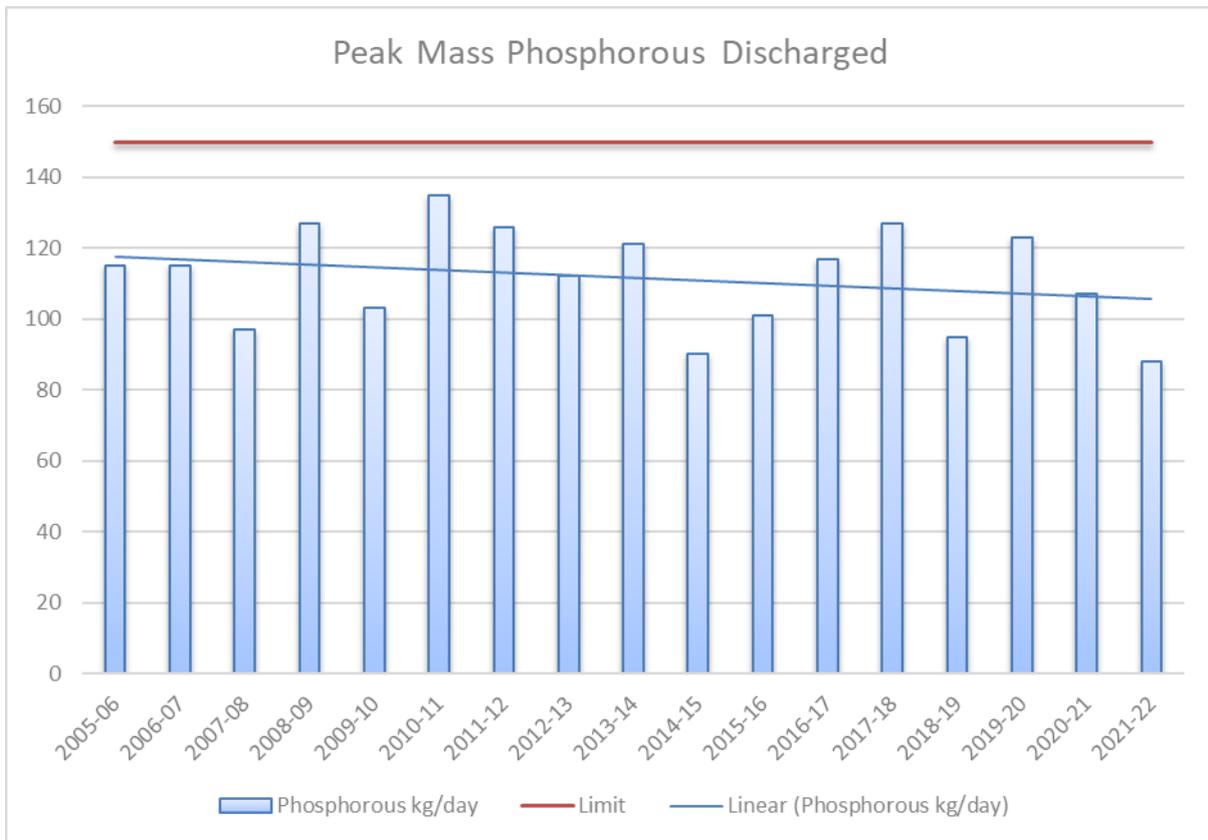
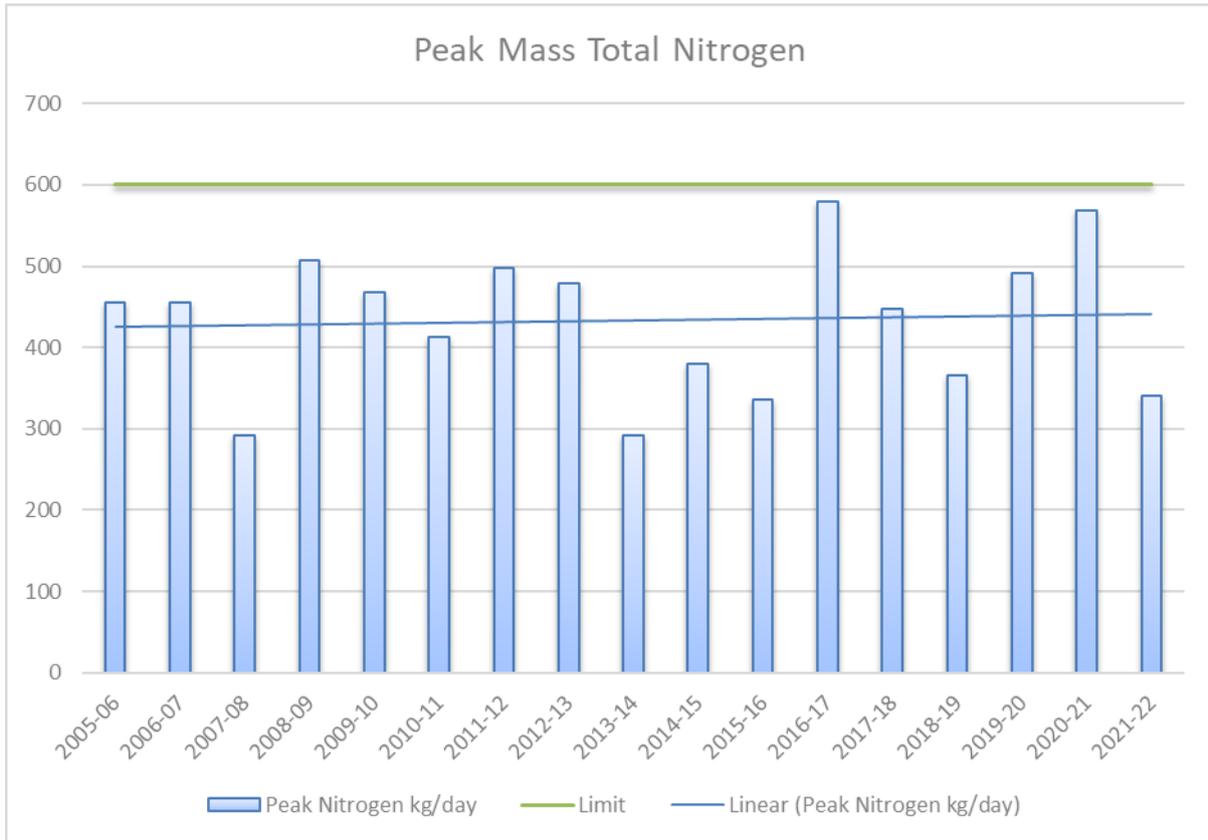
5.2 Discharge characteristics



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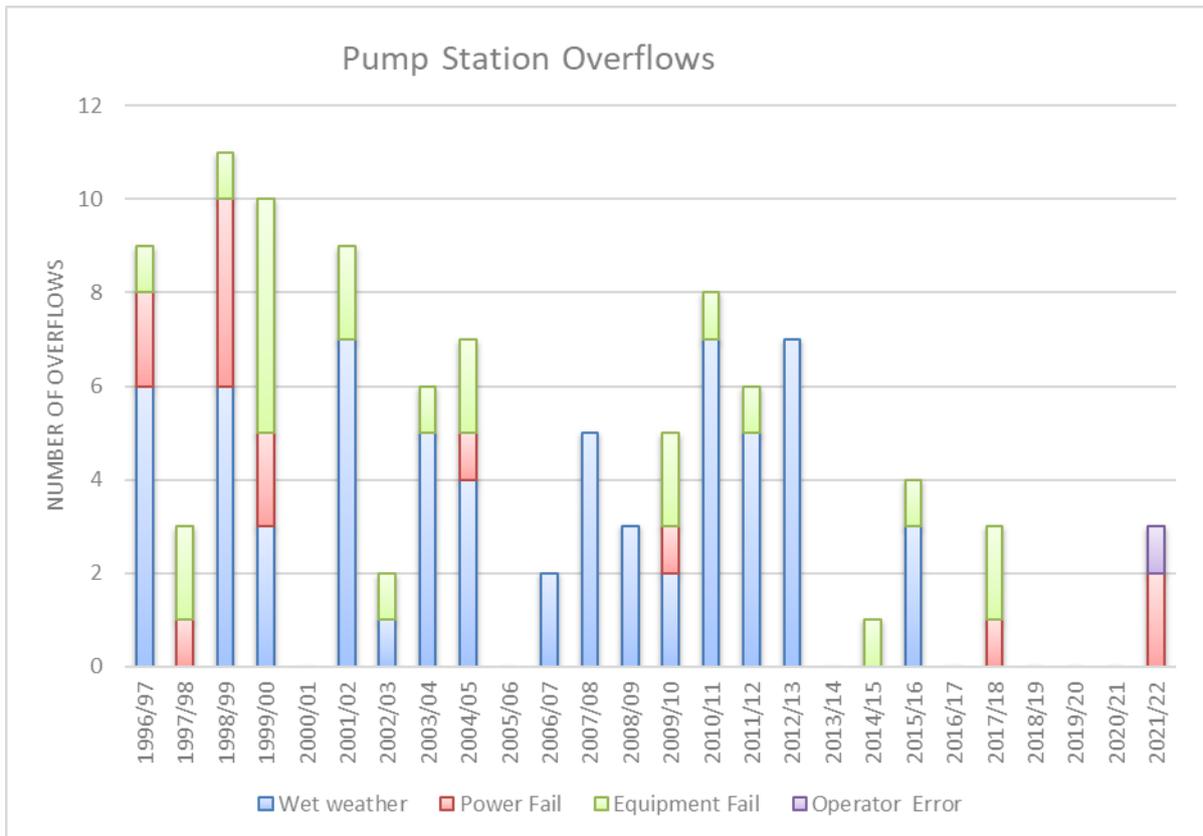


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### 5.3 Scheme overflows

There were three overflows during the 2021/22 year. 2 of these overflows occurred on the same day, as a result of power surge related equipment failures during high flows at Songer and Saxton pumpstations.

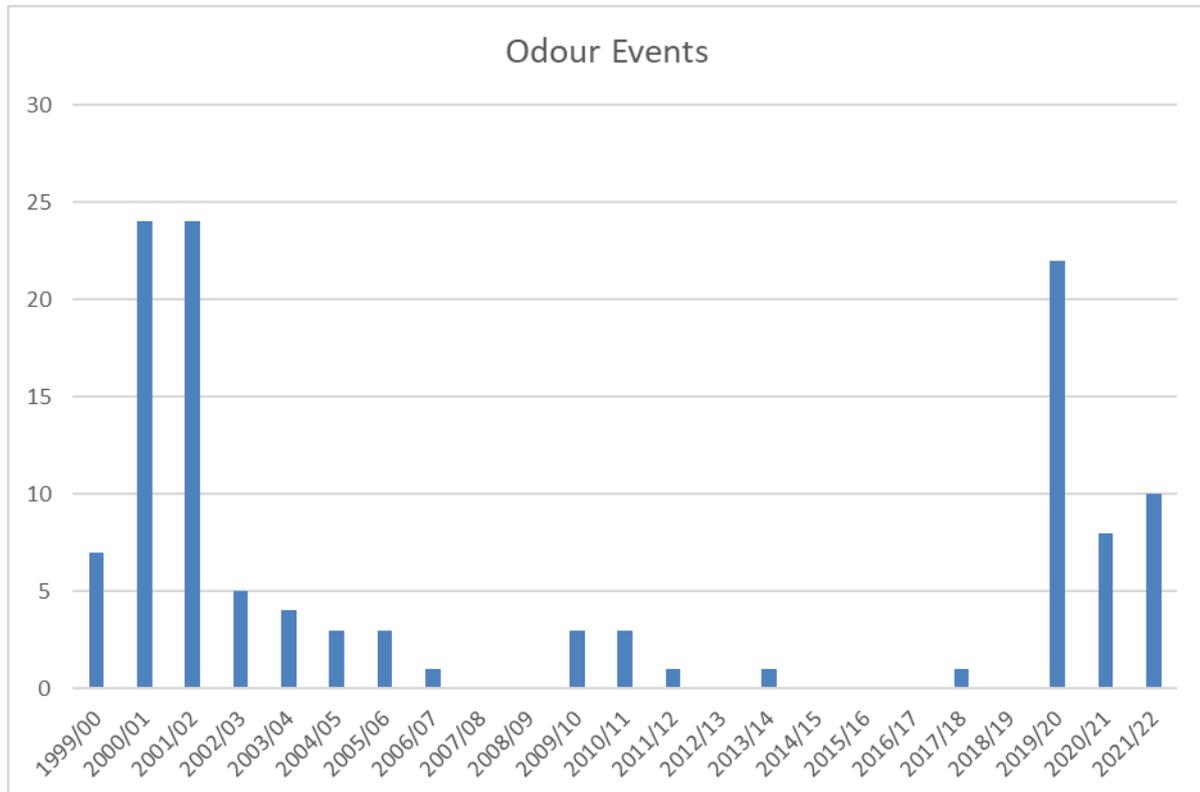
The third overflow was minor, and occurred due to historical valve issues, resulting in an operations error.



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### 5.4 Odour Management

A total of 31 odour reports were received during 2021/22. Of these 26 reports resulted from odour generated by NRSBU activities. These reports were attributed to 10 odour events.



**6. Performance assessment when compared to historic performance measures.**

6.1 Previous annual reports have used performance measures included in the NRSBU business plan for the year. The NRSBU 2021/2022 business plan included different strategic goals which are discussed later in this report, however for comparison against previous reports an assessment has been made against the historic performance measures.

6.2 Wastewater reticulation, treatment and disposal services meet customers' long term needs."

Objective	Key Performance Measures	Performance
Sufficient reticulation, treatment and disposal capacity is available for loads received.	Loads do not exceed the capacity of system components.	<b>Not achieved.</b> The reticulation is currently unable to convey peak flows from Tasman District Council. The treatment plant has limitation on treatment capacity through the mechanical treatment plant.
Intergenerational equity is maintained.	Loans are repaid over 30 years (the average life of the assets).	Achieved.
Levels of service are defined in all contracts and are met.	100% compliance with service level agreements by all major contractors.	Achieved.

6.3 The cost of wastewater reticulation, treatment and disposal services are minimised".

The above performance measure was changed in 2019 to reflect the fact that NRSBU was not focussed on minimising cost, but rather providing a cost effective service.

Objective	Key Performance Measures	Performance
The costs of reticulation, treatment and disposal processes are cost effective.	The operational costs of reticulation, treatment and disposal processes meet the approved Annual Budgets.	Achieved. Despite start up costs for the new O&M contract the cost of operations is 9.9% lower than budget for the 2021/22 year.
	All capital projects are delivered within budget.	<b>Not achieved.</b> Capital budgets were underspent due to Regional Services staff capacity. capex spend increased capex to 2020/21 with a

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Objective	Key Performance Measures	Performance
		higher portion of budgeted capex spending achieved.
The economic lives of all assets are optimised.	Three yearly independent audit of asset management practices confirms this.	Achieved. NRSBU has had a number of assets independently valued by quantity surveyors and in-depth asset inspections have been undertaken on around 60% of assets over the last two years, with Approximately 30% of the assets inspected during 2021/2022
Customers understand the benefits of demand management and the costs, risks and environmental implications of increasing demand.	That progress made by NCC and TDC with implementation of load management policies, priorities.	<b>Not Achieved</b> No response has been received from Nelson City Council regarding future flows to the NRSBU facilities despite requests.
	Combined loads do not exceed the capacity of the components of the system.	Achieved.
Technology choices are well understood and are proven to be reliable, sustainable and cost effective.	All significant technology choices are supported by cost benefit analysis, independent peer review, energy efficiency analysis, risk analysis and, where appropriate, by other users of those technologies.	Achieved.

6.4 “Risks associated with the services provided are identified and mitigated to a level agreed with customers and owners”.

Objective	Key Performance Measures	Performance
Risk management plans include all significant health and safety, environmental, cultural, social economic and contractual risks.	No event, which impacts on agreed levels of service, occurs that has not been identified in the Nelson Regional Sewerage Business Unit risk management plans.	Achieved.
	Customer representatives review and approve the risk management plan annually and following any incidents which require activation of the plan.	Achieved.

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Objective	Key Performance Measures	Performance
Contingency plans adequately address emergency events.	Customer representatives review and approve the plans annually.	Achieved. These matters are considered during the development of the asset management plan and considered at customer meetings.
	Effectiveness of plans is reviewed and confirmed following incidents which require activation of the plan.	Achieved. Incidents reported in quarterly reports and considered at customer meetings.

6.5 “We engage the right people, with the right skills and experience”.

Objective	Key Performance Measures	Performance
Those engaged with the Nelson Regional Sewerage Business Unit have the right skills, experience, and support to perform well.	Annual staff performance reviews include assessment of the skills and experience required in their role in Nelson Regional Sewerage Business Unit and their development needs are identified and met.	<b>Not achieved.</b> NRSBU is understaffed. Concern regarding staffing levels has been communicated to the board and a revised structure has been developed but not implemented at this time .
	Development and succession plans are in place.	Staff capacity issues have limited the ability of staff to undertaken development activities. A new structure has been prepared but has not been implemented.
Operation and maintenance manuals reflect best practice for the management of the plant and reticulation systems and are followed consistently.	An independent audit every three years confirms this.	Achieved. The plans are currently in the process of being updated and a review is programmed for in 2023/24

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6.6 “Nelson Regional Sewerage Business Unit operates sustainably and endeavours to remedy or mitigate any identified adverse environmental, social or cultural impact”

Objective	Key Performance Measures	Performance
<p>Nelson Regional Sewerage Business Unit minimises adverse environmental, social and cultural impacts where this is economically viable.</p>	<p>That progress towards meeting energy efficiency targets is reported on and reviewed annually.</p>	<p>Achieved.</p> <p>Energy efficiency is now reported by the O&amp;M contractor monthly.</p> <p>Power consumption was over budget by \$100,000 due to changed electrical supply contract, and increased rainfall compared to 2019/20</p> <p>NRSBU is working with an external party to install a solar array to be the primary source of power during daylight hours.</p>
	<p>Current capacity to utilise beneficial application of biosolids to land is sustained.</p>	<p>Achieved.</p> <p>100% of biosolids treated at Bell Island are beneficially applied to Radiata pine plantations belonging to Tasman District Council</p>
	<p>Beneficial economic and environmental reuse of treated wastewater is maintained or increased.</p>	<p>The operation continued to apply treated wastewater to land via the irrigation system on Bell Island.</p> <p>A test water recycling facility has been constructed and is now providing recycled water (“new water”) for the Bell Island WWTP.</p> <p>A consent application for the reuse of treated wastewater to the Greenacres Golf Course has been submitted</p>
	<p>Environmental, social and cultural impacts are considered in all decision making.</p>	<p>While this is not directly measured, Assessment of Environmental Effects undertaken for the Resource Consents on Bell Island and Moturoa Rabbit Island demonstrate that the NRSBU are achieving quality environmental outcomes.</p>

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6.7 “Good relationships are maintained with all stakeholders.”

Objective	Key performance Measures	Performance
Shareholders are satisfied with the strategic direction and the economic performance of the business unit.	All strategic and business plans are approved by shareholders.	Achieved.
	All budget projections are met.	<b>Not achieved.</b> Capital expenditure was under budget.
Good relationships are maintained with all stakeholders including owners, iwi, customers, contractors, neighbours, and the wider community.	All complaints or objections are addressed promptly.	Achieved. While some odour issues were notified, customers were satisfied with the NRSBU response to odour complaints.
	All applications for resource consents are approved.	Achieved. Currently still in the process of applying for the Rabbit Island Biosolids Application Consent.
	Up to date information on activities and achievements are publicly available.	Not achieved. The NRSBU website has not been updated as was planned during 2020/2021. A new website is being constructed but is not finished yet.

6.8 “All statutory obligations are met”.

Objective	Key Performance Measures	Performance
All statutory obligations are identified and met and are included in contracts with suppliers.	100% compliance with all statutory obligations.	Achieved.
All resource consents requirements are met.	100% compliance with all statutory obligations.	Not achieved. Aberrational discharge consent condition requirements are not met due to issues with getting Cultural Health Indexing undertaken.

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6.9 "Wastewater reticulation, treatment and disposal services meet customers' long term needs."

Objective	Key Performance Measures	Performance
Sufficient reticulation, treatment and disposal capacity is available for loads received.	Loads do not exceed the capacity of system components.	Achieved, one very minor overflow occurred.  However, it is known that the capacity within the regional rising main network is insufficient to meet the wet weather needs of the Tasman District Councils catchment and this is in the process of being resolved.
Intergenerational equity is maintained.	Loans are repaid over 30 years (the average life of the assets).	Achieved.
Customers are encouraged to engage with the organisation and are satisfied with the service.	All customer representatives attend at least 75% of customer meetings.	Achieved.
	Customer surveys show an average score of at least 5 out of 7 on satisfaction with services.	Only 2 customers chose to respond to the survey. NRSBU takes this as an indication that the other contributors hold no significant issues with NRSBU performance.
Levels of service are defined in all contracts and are met.	100% compliance with service level agreements by all major contractors.	Achieved.

**7. Assessment of performance against the Business Plan Strategic Goals.**

- 7.1 The strategic goals of the NRSBU set the basis for performance measurement and long-term strategies. These strategies are the outlined performance targets in the 2021/22 Business plan.
- 7.2 The following tables outline the performance objectives, key performance measures and what was achieved:

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7.2.1 Table of NRSBU Strategic Goals as outlined in the 2021/2022 Business Plan.

Strategic Goal	Objective (This is what it looks like)	Level of Service (This is how we do it)	Performance
We will implement and operate infrastructure considering the needs of our community. Our priorities for this are protection of public health, the environment and cultural values.	Containment and conveyance that is resilient and minimises adverse impacts on the health of the environment and community	We have sufficient capacity in our network to cope with peak flows	<b>Not achieved</b> NRSBU has insufficient capacity to accommodate the flows from TDC network. Upgrades are underway to resolve this.
		We are resilient to mechanical and electrical failures and natural hazards	<b>Not achieved</b> Back up electrical system not sized for storm flows. New generators are being installed to resolve this.  Mechanical resilience achieved.
		We can readily maintain the network	<b>Not achieved</b> Maintenance requires the network to be removed from service. Duplication is being undertaken as part of the capacity upgrade to resolve this.
	Resilient wastewater treatment that minimises the impact on the environment and community	The treatment plant can reliably accept (N+1 for critical assets) all peak flows from the network	<b>Not achieved</b> Capacity insufficient with Inlet Screens and Secondary separation capacity. This will be exacerbated once the pipework upgrades currently underway are completed.
		The treatment plant can fully treat all dry weather flows	Achieved
		The treatment plant does not create odour issues for the community	<b>Not achieved</b> Upgrades are underway, and performance continues to improve compared to previous years.

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Strategic Goal	Objective (This is what it looks like)	Level of Service (This is how we do it)	Performance
		Effluent Quality meets or exceeds required discharge requirements	Achieved
	Long term vision that considers the future needs of the community	Our ongoing business is safeguarded through engagement with council planning processes	Achieved
		We have long term plans for our activities and their impacts	Achieved
		Have systems in place for the ongoing monitoring and reporting of emissions	Achieved – Further development are in progress.
	Alternative methods of biosolids disposal that protect public health and the environment and are sensitive to cultural values	Have a backstop for issues with biosolids disposal	<b>Not achieved.</b> No backstop is currently available for biosolids disposal.
We will work towards the beneficial reuse of resources	Use of ongoing improvement processes to identify, implement and operate feasible biosolids reuse	Treatment to maintain 100% reuse of biosolids	Achieved
		Increase reuse value	<b>Not achieved</b> No work has been undertaken this year to improve reuse value.
		Maintain 100% diversion of biosolids from disposal to landfill	Achieved
	Identified implement and operate feasible systems and infrastructure for the reuse of wastewater	We minimise the amount of effluent we discharge to water	Achieved – Reuse of water commenced during the year, and consent has been applied for additional reuse of wastewater.

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### 7.3 Capital Expenditure 2021/22

An amount of \$8.2 million was spent during 2021/22 on capital and renewals projects, compared the budget of the \$14 million – this budget included carry over from 2020/21.

For comparison NRSBU carried over \$5.98M of capital funds from a budget of \$11.60M at the end of the 20/21 FY. As a percentage of budget this is an improvement from 51.5% in 20/21 to 31.1% this year.

	Full Budget 2021/22	Total Spend 2021/22	Carryover
<u>Renewals</u>			
Total Renewals	<b>\$ 3,242,604</b>	<b>\$ 764,334</b>	<b>\$ 2,499,815</b>
<u>Capital</u>			
Regional Pipeline	\$ 6,400,899	\$ 3,761,391	\$ 2,639,509
Other	\$ 4,402,356	\$ 3,678,870	\$ 723,835
Total Capital	<b>\$ 10,803,255</b>	<b>\$ 7,440,262</b>	<b>\$ 3,363,343</b>

### 7.4 Capital expenditure: Renewal and Upgrade project details:

	Full Budget 2021/22	Total Spend 2021/22	Carryover
<u>Renewals</u>			
Renewals: Buildings	\$222,251	\$9,816	\$212,436
Renewal Inlet	\$239,182	\$47,651	\$191,531
Renewal: Sludge Storage	\$446,817	\$89,780	\$357,037
Renewal: Pump Stations & Rising Mains	\$391,992	\$175,965	\$216,027
Rabbit Island Renewals	\$64,881	\$3,468	\$61,413
Carryover - Aerators	\$1,415,169	\$0	\$1,415,169
<u>Capital</u>			
Regional Pipeline Duplication	\$6,400,899	\$3,761,391	\$2,639,509
Pump Station Overflow Screens	\$563,534	\$25,423	\$538,112
ATAD Odour Upgrade	\$699,095	\$452,850	\$246,245
Sludge Management in Ponds at Bell	\$499,196	\$807,659	-\$308,463
Operator Building	\$284,287	\$70,517	\$213,770
Pump Station Flooding Resilience	\$213,391	\$127,108	\$86,283
Sludge Storage Tanks	\$763,715	\$7,316	\$756,399
Rabbit Island Tank Covers/Odour	\$274,263	\$0	\$274,263
Biosolids Application Consent	\$19,185	\$217,014	-\$197,829
Aberrational Discharge Consent (EMP)	-\$52,611	\$54,363	-\$106,974

7.5 Scheme Capacity Trends

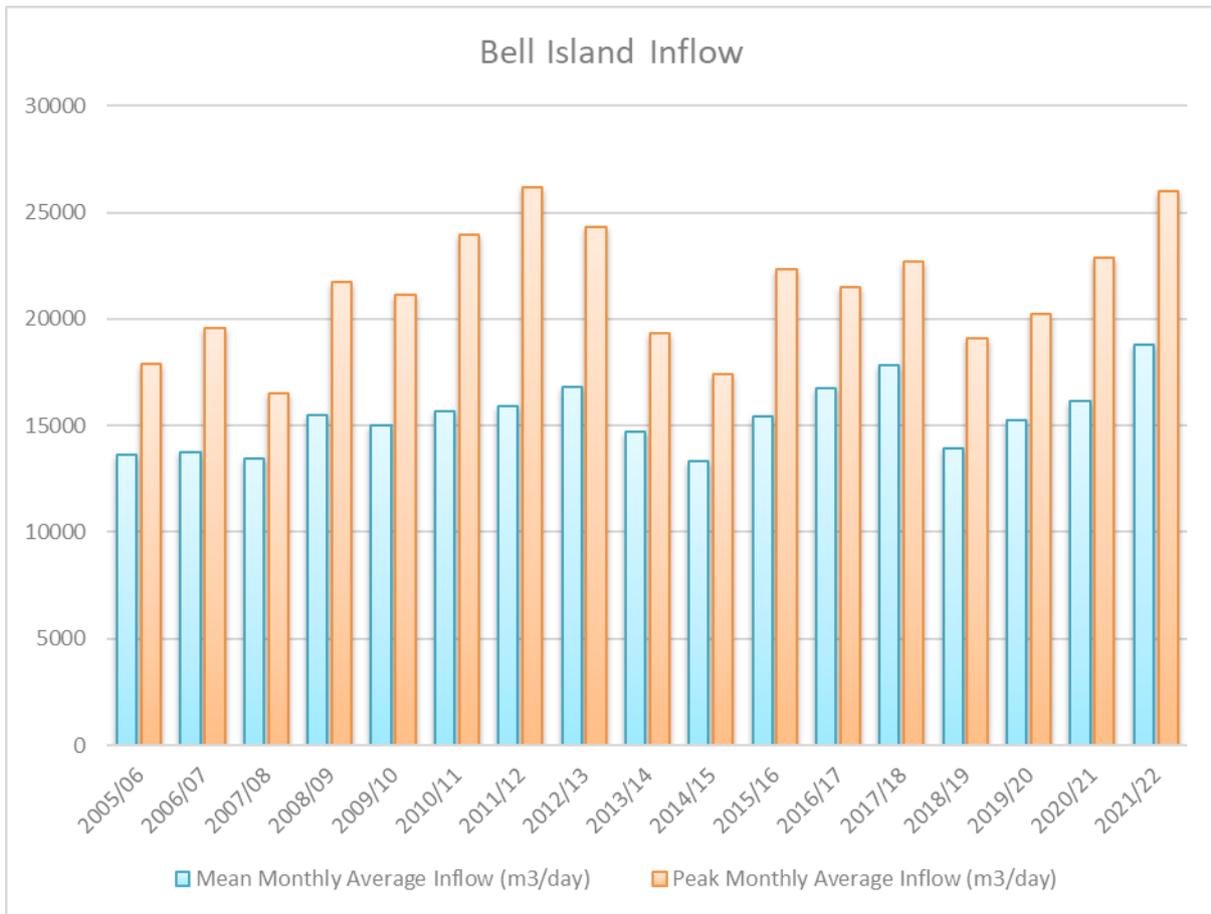
Capacity	Average flow m <sup>3</sup> /day	Peak flow l/s	BOD kg/day	COD kg/day	SS kg/day	TKN kg/day	TP kg/day
Estimated Capacity	25,920	1,508	12,226	28,000	11,000	750	230

**Figure 2.18: Bell Island Wastewater Treatment Plant Capacity**

Bells Island inflow figures are trending consistently upwards. This trend can be attributed to population growth within the contributory catchments.

Analysis of the average vs peak inflow trendlines indicates that any reduction in inflow & infiltration within the contributory catchments has been minimal.

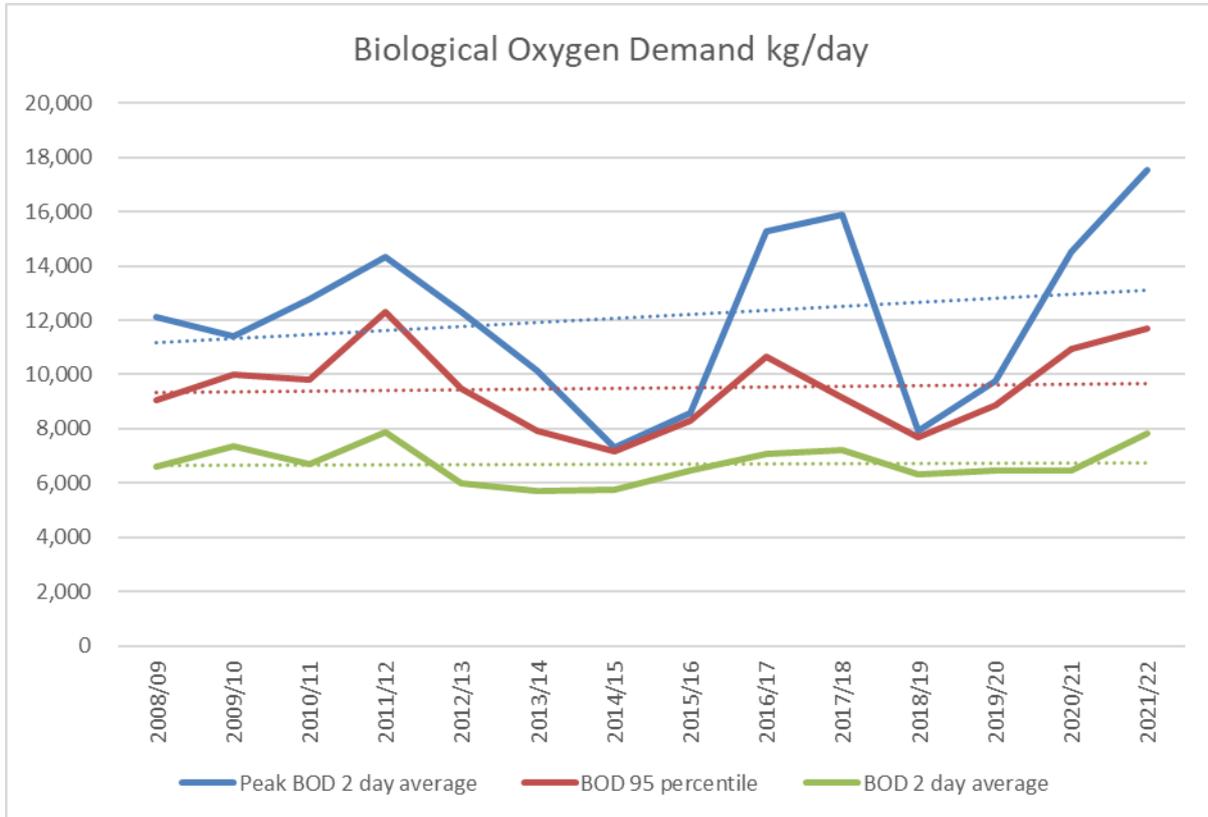
The graph below shows the mean monthly inflow is the highest in this data set.



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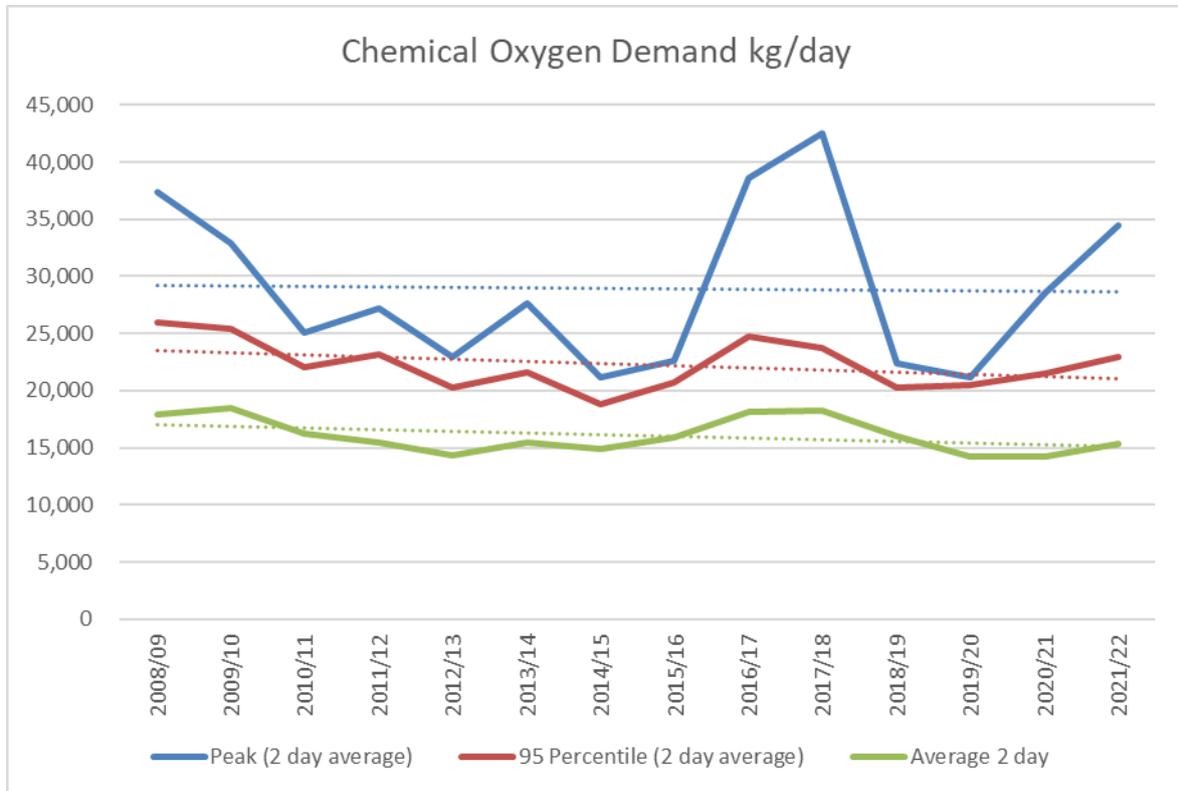
7.6 Influent characteristics

The Biological Oxygen Demand (BOD) peak & 95<sup>th</sup> percentile figures continued an increase during 2021/22. With average BOD remaining constant this would indicate a wider range of BOD concentrations over 2021/22



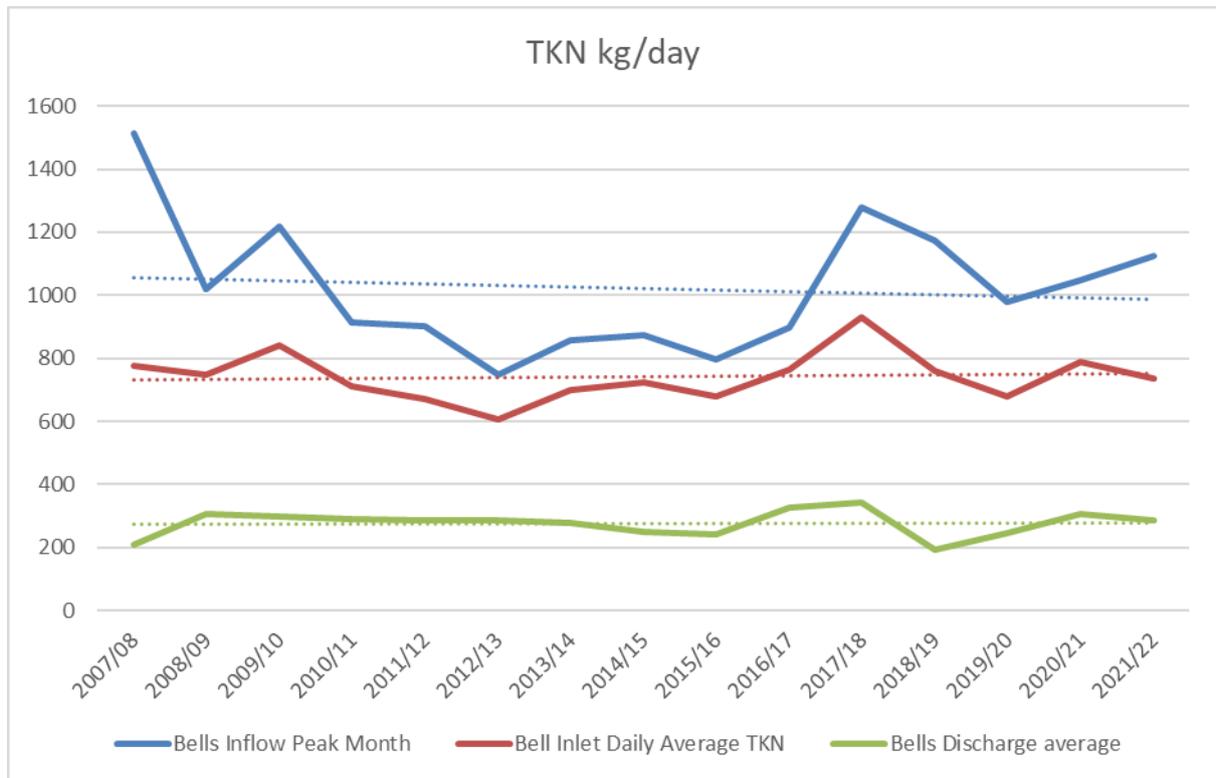
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The Chemical Oxygen Demand (COD) has continued the decrease over the last ten years. This demonstrates that the trade waste agreements continue to provide an incentive for industrial customers to improve on site treatment of wastewater. Whilst the 95<sup>th</sup> percentile and average trendlines continue to converge, the spike in peak COD has flattened the peak trendline away from the others.



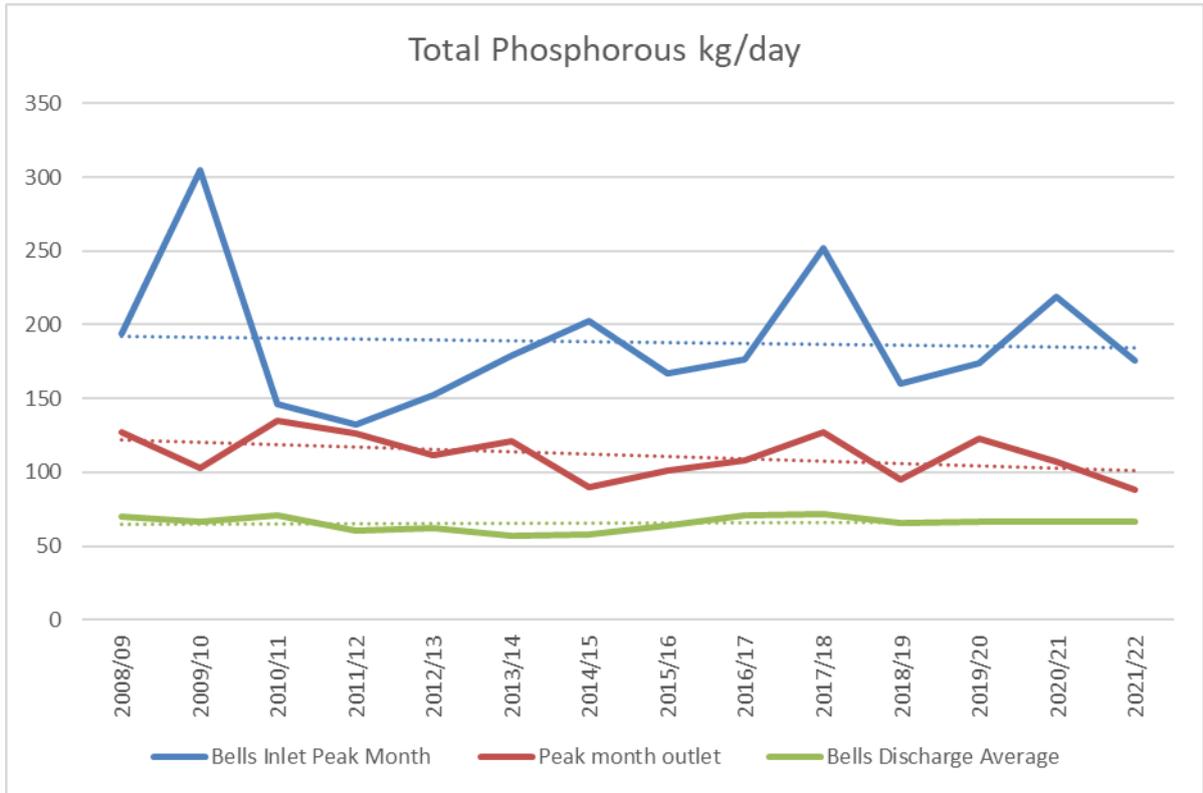
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The Total Kjeldahl Nitrogen (TKN) peaks in the wastewater received at the Bell Island Treatment Plant continues to follow a reducing trend, with average inflow and discharge staying static.



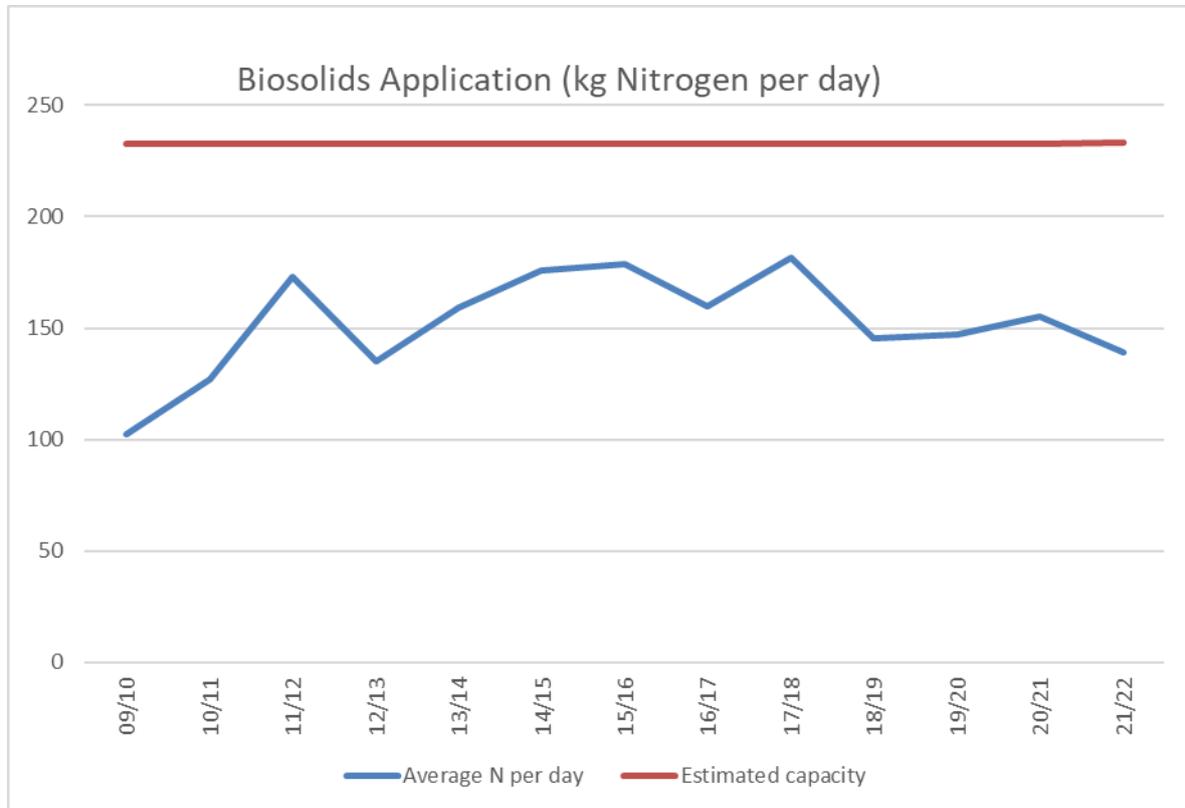
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Influent and discharge peak phosphorus levels decreased in 2021/22. Discharge average phosphorus remained constant.



7.7 Nitrogen application via biosolids

The graph below shows that the application of nitrogen at Rabbit and Bell Island through biosolids application is within the capacity of these areas to receive nitrogen.



**8. Conclusion**

8.1 The assessment of environmental effects carried out as part of the resource consent application demonstrates the effectiveness of the Bell Island Wastewater Treatment Plant to treat wastewater so that the discharge from Bell Island has only a minor effect on the receiving environment. The AEE for Rabbit Island submitted as part of the NRSBU application for Biosolids Discharge consent also found no areas of environmental concern and it was concluded that our system is the best practicable option.

8.1.1 Analysis of the scheme capacity trends shows that loads to the plant have not increased at the growth projections used to develop the 2010 upgrade. The plant is well placed to continue to operate and minor improvements to capacity will be required to overcome flow related capacity issues.

8.1.2 Analysis of the scheme capacity shows that flows to the plant continue to increase, and no improvement is being observed in PWWFs. Plant capacity is becoming constrained by volumetric flows, and it is expected that this will become significantly worse during rainfall events once the upgraded pipelines have been

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implemented. Consideration into volumetric capacity improvement at Bell Island need to be undertaken to assess the impact of this growth. Volumetric capacity improvements include additional secondary separation capacity, and additional bypass capacity from the treatment plant inlet to the facultative oxidation ponds.

8.1.3 Consideration should also be given to applying for a variation to the discharge consent to increase the peak discharge volume from 25,000m<sup>3</sup> per day to 30,000m<sup>3</sup> per day. Prolonged extreme inflow periods are being experienced more frequently resulting in the inflow exceeding the storage capacity of the Bell Island facility.

8.1.4 Analysis of the trends demonstrates that the quality of the discharge meets the required standards. Additional sampling undertaken during 21/22 for virus contaminants has not detected significant virus contaminants in the plant discharge.

8.1.5 Desludging of pond F2 has been completed.

### 8.2 Financial Performance

Explanations for major variations from the Nelson Regional Sewerage Business Unit's 2021/22 Business Plan are as follows:

#### **Statement of Comprehensive Income**

8.2.1 Total income is \$39,030 above budget. The sales include a capital charge for access to treatment and an operational charge based on actual usage and actual operating cost. The capital charge budgeted was \$4,788,000 however recovery against this was \$474,883 less than budgeted at \$4,313,117.

8.2.2 Variable charges were budgeted at \$4,734,000 with the actual annual charge being \$194,000 above budget at \$4,928,637.

8.2.3 Total expenses are \$429,799 more than budget due to increased consultancy costs, increase power costs, and increased depreciation.

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<b>NELSON REGIONAL SEWERAGE BUSINESS UNIT</b>				
<b>Statement of Comprehensive Revenue and Expense</b>				
<b>For the year ended 30 June 2022</b>				
	Notes	Actual 2021/22	Budget 2021/22	Actual 2020/21
<b>Revenue</b>		\$	\$	\$
Sales		9,241,754	9,522,000	8,053,163
Other Recoveries		363,472	158,000	367,929
Interest		4	-	29
Gain in Fair Value of Forestry	5	113,800	-	33,800
<b>Total Revenue</b>		<b>9,719,030</b>	<b>9,680,000</b>	<b>8,454,920</b>
<b>Less Expenses</b>				
Management		566,003	500,000	589,837
Audit Fees		-	-	-
Interest Paid		695,481	730,000	272,314
Insurance		95,839	98,000	91,283
Depreciation	6	2,832,854	2,553,000	2,460,050
Electricity		1,057,619	900,300	999,560
Operations & Maintenance		1,764,157	1,882,700	1,703,599
Monitoring		326,983	358,000	184,244
Biosolids Disposal		946,137	960,000	817,645
Consultancy		189,449	75,000	59,256
Sundry		127,976	92,000	140,064
<b>Total Expenses</b>		<b>8,602,499</b>	<b>8,149,000</b>	<b>7,317,852</b>
<b>Net Surplus</b>		<b>1,116,531</b>	<b>1,531,000</b>	<b>1,137,068</b>
<b>Other Comprehensive Revenue and Expense</b>				
Gain on revaluation of Fixed Assets	1(b)	8,859,883	-	3,529,790
<b>Total Comprehensive Revenue and Expense</b>		<b>9,976,414</b>	<b>1,531,000</b>	<b>4,666,858</b>

- 8.3 The 2021/22 year has been a successful year with the commencement of a new collaborative O&M contract for the Nelson Regional Sewerage System (NRSS) and the installation of a number of new capital works.
- 8.4 Significant progress has been made on the rising main upgrade with it being possible that this upgrade will be installed earlier than projected in the Activity Management Plan.
- 8.5 Some areas of compliance were not achieved, however in reviewing the noncompliance it needs to be noted that in most cases the noncompliance was either very minor or resulted from activities outside the control of NRSBU.
- 8.6 Capital project delivery performance improved compared to previous years despite ongoing capacity issues. Some systems improvements have been implemented which should continue this trend through the 2022/23 financial year.

## Attachments

Nil