

## Sullivan Lake Reserve Management Plan 2015-2025 – Action Plan Progress at September 2019

<b>1. Manage and Enhance Conservation Values</b>	<b>When</b>	<b>Progress/Evidence</b>
Continued replacement of amenity trees and wetland plant species on lake margins.	<b>Ongoing</b>	10 large specimen trees planted – Copper Beech, Oak, Magnolia, Cornus, Ginkgo etc since 2014. Annual wetland planting by Care Group with RC support on southern edge is continuing. Care Group has ongoing relationship with Corrections to maintain lakeside plantings. Care Group and Council would like to see at least three new large specimen trees planted near playground area.
Renewal program of hard edges where banked natural edging not practical.	<b>Ongoing</b>	There has been some upgrade works of retaining edging on the northeast side (as must take Three-Waters servicing vehicles). South side also has had upgrade in 2015/16. Future works will be determined dependent on assessment due in 2020 and 5-year intervals afterwards.
Resource consent maintained for treatment of exotic weed.	<b>Ongoing</b>	Use of glyphosate as part of 'tool kit' has been approved/consented for management of a variety of exotic weed. Separate consent is current for management of submerged aquatic weeds (water lilies etc.). Acknowledge Care Groups request to continue investigating physical removal options including mechanical harvesting.

<b>2. Manage and Improve Water Quality</b>	<b>When</b>	<b>Progress/Evidence</b>
Introduce fresh water from river to lake during months Oct – March as necessary.	<b>Ongoing</b>	Water can be pumped throughout year but costs. Pumping occurs when it is needed – i.e. it is hot and dry – mainly Oct – March but can be outside of this time. No pumping during adverse rain events. Municipal water supply extraction consent enduring permissions are confirmed. Current consent expires October 2026.
Collate key water parameters.	<b>Quarterly</b>	BOPRC formally monitored some water parameters – including temperature, turbidity, PH, biological oxygen demand, nitrates, nitrites, phosphorus, and chloramines etc. quarterly – but stopped in 2008. BOPRC are continuing to monitor cyanobacteria only from Jan – March. Note: cyanobacteria signage is now permanent and lake is considered not swimmable therefore no reporting on LAWA. Cyanobacterial reports are provided to District Council and Care Group via email list but may have been missed. Delay by 2-weeks as noted by RC in letter to CG. Draft Comprehensive Stormwater Consent is proposing renewal of monitoring of key water parameters – namely pH, suspended solids, hardness, turbidity, zinc (Zn), copper (Cu), lead (Pb), chromium (Cr), cadmium (Cd) and <i>E. coli</i> bacteria. Likely at two locations near intake and outtake of Sullivan Lake. Further monitoring of faecal

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		coliform bacteria may be conducted as it relates to resident bird population/other faecal contamination sources etc. Care Group to stay in contact with BOPRC to ensure receiving regular cyanobacterial monitoring results via email.
Investigate private stormwater outlets – and options for removal.	<b>2015-2025</b>	Since 2015 two outlets have been investigated and rectified (northern side) due to ponding of lakeside path restricting access. Three-Waters undertaking sampling to see if any continuing discharges warrant removal. Note some discharges assist in improving water quality and only option for some private lakeside residences. Some allowed in original building consent.
Investigate alternative methods for improving water quality – e.g. floating wetlands/aeration etc. and report to Projects and Services.	<b>2019/2020</b>	New weir in December 2018 assists in the flushing of the lake. Part of Comprehensive Stormwater Consent application process. Considered as part of the Catchment Management Plan Process. Now 2019/2020.
Apply a comprehensive stormwater catchment consent for Whakatāne.	<b>2019/2020</b>	Application is underway. More community consultation to follow in Sep/Oct/Nov. Application to be lodged in Dec 2019.
Undertake required works as above.	<b>2019-2025</b>	Works to be determined through Catchment Management Plan.
Implement a stormwater bylaw.	<b>2017</b>	Complete 2017. Combined Waters Bylaw.

<b>3. Manage Vegetation and Open Space Areas</b>	<b>When</b>	<b>Progress/Evidence</b>
Continue vegetation maintenance and management.	<b>Ongoing</b>	PAOS have taken all amenity and vegetation control in-house since 2016. Standardised District performance to be maintained dependent on ground conditions/accessibility.
Maintain bylaws and programme of review of bylaws for public places, parks and reserves.	<b>Ongoing</b>	Parks and Reserves Bylaw updated 2018. Public Places note due until 2025. Note that details in previous bylaw are covered off in other bylaws re dogs, alcohol, fires etc. instead of repeated.
Maintain solid waste collection services contract.	<b>2017-2024</b>	3 wheelie-bins located – King, Douglas South and near pump station are emptied by Waste Management weekly. This has been audited in July 2019. Contract with Waste Management due for review 2024. Some household waste dumped at King. Council is likely to review whether these can be removed to discourage illegal household dumping. PAOS collect waste and empty St Louis bin regularly. Councils Solid Waste will discuss with Care Group prior to any changes to regime are adopted.
Maintain program for structure audits. (higher risk raised structures – Footbridge and Boardwalk)	<b>Ongoing</b>	All structures captured in SPM. Key structures are footbridge and boardwalk – both constructed 1997. Footbridge inspected by engineers in 2016, and boardwalk 2012. Repairs ongoing. Updated engineering assessment will be conducted in 2019 for

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		boardwalk and planning for replacement of some boardwalk components (decking) by 2022.
Maintain a Council Waste Minimisation Plan (6 year plan)	<b>Ongoing</b>	Current 2014-2020. Due 2021.
Review Whakatāne Urban Tree Strategy (10 year strategy)	<b>2019/20</b>	Under review 2019 due 2020. Note: Previous Strat had no dates. In conjunction with update of Engineering Code of Practice. Will go out for public consultation.

<b>4. Provide for a range of Passive and Active Recreation Activities</b>	<b>When</b>	<b>Progress/Evidence</b>
Maintain and renew playground and other recreational assets. (play-ground, pathways, seating, bollards, rails, fencing etc.)	<b>Ongoing</b>	Pathway widening (to 1.8 from 1.4m) and repair of 230lm plus new path from south King of 30lm connecting seating. Playground has upgrade of timber decks, painting, cushion fall etc. in 2018/2019. Note PAOS 2019/20 budget is only \$7k for renewals. Intend to extend path to Olympic stairs. New picnic table donated by Pride Whakatāne in August – Council pay for pad and install . Investigate removal of chain at entranceway off King and Douglas as makes it less accessible. Consider rail fence and new end treatments.
Maintain a program of (playground/recreation) structure audits.	<b>Ongoing</b>	Playground structure audit completed every 3 years by independent auditor. Month inspections by qualified PAOS staff.
Develop a programme of interpretation and signage rationalisation.	<b>2015-18</b>	Completed. All signage renewed 2017. Audit due 8 years – 2025.
Implement Councils walking and Cycling Plan.	<b>2019/20</b>	New Strategy: Active Whakatāne due Oct/Nov 2019. Implementation plan to follow. Suggest review of ‘passive recreation’ intent in Plan to also include ‘active’ recreational activities. Cycling etc. viewed as active recreation. Possible additional funding stream for shared-use path development - tbc.

<b>5. Plan and Manage the effects of Utility Infrastructure on the Reserve</b>	<b>When</b>	<b>Progress/Evidence</b>
Undertake bathymetric surveys of Sullivan Lake bed to monitor sediment.	<b>2016 then 3-yearly</b>	Council propose bathymetric survey in Nov/Dec 2019 (following dredging project), then 2022 to determine future monitoring.
Maintain system of silt removal at southern end of lake	<b>Ongoing</b>	1455-m3 mud/700 tons dry matter plus another 1700m3 mud removed during 2019 operation. Bathymetric due July 2019. Ongoing ops based on visual assessment and periodic dredging from silt behind bund. Budget adjustments may be required. Note: Can only take place in summer when ground conditions permit.

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<p>Undertake investigations in to programme of silt removal and report to Projects and Services.</p>	<p><b>Ongoing</b></p>	<p>Completed. ECL and long reach desilting project 2019. Ongoing investigations/observations particularly after heavy rains with care not to dam and endanger sewer operations. Council will continue with regular inspections and maintenance of the Sullivan Lake. (Council response to Annual Plan 2019 submission). <i>Council will consider two yearly dredging of Sullivan Lake during future budgeting deliberations. Council will endeavour to further improve silt interception before it enters Sullivan Lake. It is however, it is worth noting that the sludge build up in the Lake is a combination of accumulation of fine silts brought by stormwater and biological processes associated with flora and fauna of the lake. Silt traps on stormwater lines can only reduce coarse silt from entering the lake. They will not be able to stop fine fractions of silt suspended in 'muddy' water</i></p>
<p>Investigate options to restrict sediment deposition in to lake (e.g. silt curtain)</p>	<p><b>2015-Ongoing</b></p>	<p>Three-Waters have looked at options – consider most effective means of managing silt to have a dedicated area within the lake (southern end) and restrict further dispersal. Planted sediment bund could have further planting to alleviate dispersal. To investigate further. Catch pits further upstream are ineffective. Logging operation in escarpment so far proving no significant negative discharge - however no heavy rain yet. Revegetation program with pest removal and 1000 new native plants due to commence in Sep 2019. Another 1000 in early winter 2020.</p>