City of Busselton
Geographe Bay

Waterways Management Committee

Minutes

Wednesday 23 October 2024

MINUTES

Minutes of a meeting of the Waterways Management Committee held in the Council Chambers, Administration Building, Southern Drive, Busselton, on Wednesday 23 October 2024 at 9:00 am.

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1 OFFICIAL OPENING

The meeting opened at 9:01am.

Mr Ben Whitehill, Manager Legal, Governance and Risk welcomed elected members, independent members, staff, guests and members of the public to the Waterways Management Committee meeting of 23 October 2024.

Mr Whitehill acknowledged the Wadandi and Bibbulmun people as the traditional custodians of this region and paid respects to Elders past and present.

This meeting was audio recorded for minute taking purposes.

2 ATTENDANCE

PRESIDING MEMBER	MEMBERS
	Cr Anne Ryan
	Cr Val Kaigg
	Cr Mikayla Love
	Cr Jarrod Kennedy
	Mr Steve Disley
	Ms Vicki Viela

OFFICERS	
Mr Oliver Darby	Director Infrastructure and Environment
Mr Bradley Reynolds	Manager Parks and Environment
Ms Danielle Halliday	Senior Sustainability/Environment Officer
Ms Eloisa Pickerill	Community Engagement Officer
Mr Ben Whitehill	Manager Legal, Governance and Risk
Ms Carmel Brown	Governance Officer

APOLOGIES
Nil

3 ELECTION OF PRESIDING MEMBER AND DEPUTY PRESIDING MEMBER

Mr Ben Whitehill, Manager Legal Governance and Risk conducted the nomination and voting to elect a Presiding Member of the Waterways Management Committee in accordance with section 5.12 of the *Local Government Act 1995*.

Cr Anne Ryan was nominated for the position of Presiding Member.

With no other nominations received, Cr Ryan was elected Presiding Member of the Waterways Management Committee.

9:03am: At this time, Cr Ryan assumed the chair.

The Presiding Member called for nominations for the position of Deputy Presiding Member.

Cr Mikayla Love was nominated for the position of Deputy Presiding Member.

With no other nominations received, Cr Love was elected as Deputy Presiding Member of the Waterways Management Committee.

4 DISCLOSURES OF INTEREST

DISCLOSURES OF FINANCIAL INTEREST

Nil

DISCLOSURES OF IMPARTIALITY INTEREST

Nil

5 PUBLIC QUESTION TIME

5.1 RESPONSES TO PREVIOUS QUESTIONS TAKEN ON NOTICE

Nil

5.2 QUESTION TIME FOR PUBLIC

Jill Walsh

Question:
Is EPA approval required to apply blue pond dye to the Lower Vasse River and what timeframes are associated with obtaining the approval?

Response:
(Mr Oliver Darby, Director Infrastructure and Environment)
It is likely that approvals are required from the Department of Water and Environmental Regulation or the Environmental Protection Authority. Obtaining approvals is not a quick process and requires various steps including engaging with the Vasse Taskforce. Currently the City's focus is on obtaining the necessary approvals for the continuation of the sediment removal program with a new methodology.

6 CONFIRMATION AND RECEIPT OF MINUTES

Nil

7 REPORTS

7.1 Waterway Management Update

Strategic Theme:	Key Theme 1: Environment 1.2 Work with the community to manage and enhance natural areas and reserves and their biodiversity. 1.3 Work with key partners to improve the health of the Vasse River and other waterways in the Geographe catchment.
Directorate:	Infrastructure and Environment
Reporting Officer:	Senior Sustainability/Environment Officer – Danielle Halliday
Authorised By:	Director Infrastructure and Environment - Oliver Darby
Nature of Decision:	Noting: The item is simply for information purposes and noting.
Voting Requirements:	Simple Majority
Disclosures of Interest:	No officers preparing this item have an interest to declare.
Attachments:	1. Lower Vasse River Sediment Removal Stages Map [**7.1.1** - 1 page] 2. Phoslock Trial 2023 Factsheet [**7.1.2** - 2 pages] 3. Toby Inlet Waterway Management Plan [**7.1.3** - 100 pages] 4. Water Treatment Trials 2016 - 2018 [**7.1.4** - 44 pages] 5. Lower Vasse River Waterway Management Plan [**7.1.5** - 80 pages] 6. Independent Review of the Current and Future Management of Water Assets in the Geographe Catchment [**7.1.6** - 77 pages]

COMMITTEE RECOMMENDATION

WM2410/1 Moved Cr Mikayla Love, seconded Cr Val Kaigg

That the Committee receives and notes the Waterway Management Update report.

CARRIED 6 / 0

FOR: Cr Anne Ryan, Cr Val Kaigg, Cr Mikayla Love, Cr Jarrod Kennedy, Mr Steve Disley and Ms Vicki Viela

AGAINST: Nil

OFFICER RECOMMENDATION

That the Committee receives and notes the Waterway Management Update report.

EXECUTIVE SUMMARY

This report provides an overview of the City of Busselton's waterway management activities, particularly management of the Lower Vasse River and Toby Inlet. This includes an update on these waterways, partnership activities and the Lower Vasse River Sediment Removal Program.

STRATEGIC CONTEXT

Regular updates on waterway management aids in the partnership approach to waterway management and provides an additional avenue for updating stakeholders and community in relation to Strategic Priority 1.3: Work with key partners to improve the health of the Vasse River and other waterways in the Geographe catchment. It also relates to Strategic Priority 1.2: Work with the community to manage and enhance natural areas and reserves and their biodiversity.

BACKGROUND

The City of Busselton contributes to the management of waterways in the Geographe region under the context of a partnership approach. Within this structure the City primarily manages the Lower Vasse River and Toby Inlet.

The Lower Vasse River

The Lower Vasse River (LVR) is a stretch of the Vasse River approximately 5.5km in length, which flows through the centre of Busselton. This section is greatly modified, with an estimated 90 per cent of catchment flows diverted to Geographe Bay and was historically impounded by a weir structure downstream. The river is highly eutrophic, with cyanobacterial blooms occurring each year during the warmer months. Isolation of flow, poor water quality, and location have led to the need for specific management of this waterbody.

The Lower Vasse River receives extremely high nutrient loads throughout the year from rural and urban catchments, groundwater, and potentially also from river sediments. Each source individually delivers sufficient nutrients to trigger annual summer microalgal blooms. Targeting all sources of nutrients is important to make substantial and lasting improvements to water quality in the river. The Department of Water and Environmental Regulation (DWER), GeoCatch and other partners have been actively implementing nutrient reduction initiatives throughout the catchment, working with both farmers and urban residents to reduce nutrient runoff. The landscape across the Geographe Bay catchment is saturated in nutrients and will continue to release nutrients to waterways for the next few decades, even if significant reductions are achieved across the catchment. Acknowledging community desires to improve water quality in a shorter timeframe, the City, in partnership with other stakeholders is coupling nutrient reduction from catchment sources with in situ remediation, with a current focus on sediment removal, rehabilitation of riparian areas, and progression of water quality improvement trials with partner agencies, such as recent application of phosphorus-binding clays. These trials require rigorous scientific monitoring and analysis and approvals.

The southwest of Western Australia is experiencing the impacts of climate change much earlier than previously anticipated. In the six months from November 2023 to April 2024 the Busselton region received cumulative rainfall in the range of 0 – 10mm, the lowest in all of Australia for this period. In the preceding decade the area received total rainfall in the range of 50 – 300mm each year for this same period. The drought conditions experienced last spring through autumn resulted in unprecedented drying of the river, exacerbating water quality issues, cyanobacterial blooms, and poor amenity. These conditions also elevated the regional significance of the sections of the river that did retain water, as critical freshwater refuges.

Despite seasonally poor water quality, the LVR provides an important freshwater refuge, habitat and vegetated riparian areas that support native fauna, including many water birds, native fish, turtles, crayfish and the threatened, Carter's Freshwater Mussel and Western Ringtail Possum. Additionally, the river feeds the Ramsar-listed Vasse-Wonnerup System, holds cultural significance, and is valued by the community for the ecological characteristics and amenity of the river.

The Lower Vasse River is managed in accordance with the *Lower Vasse River Waterway Management Plan* (2019).

Toby Inlet

The City's current management actions and priorities for Toby Inlet (TI) are focussed on continued management of the sand bar and revegetation of adjacent foreshore reserves, in partnership with the Toby Inlet Catchment Group. Potential management of sedimentation issues including targeted removal of sediments, is identified as a medium to longer term potential priority.

TI had historically experienced severe macro algae blooms and very poor water quality. Following the completion of the *Reconnecting Toby Inlet* study (DWER, 2019), the City has been actively managing the artificial opening of the sand bar to improve water exchange with the ocean. This has led to significant improvements in water quality in the lower part of the inlet (3.6km) but unfortunately does not flush the upper section closer to Caves Road. Each year, from May to October, the ocean outlet is managed for flood mitigation to protect neighbouring residential properties, and from November to April is managed for water quality improvement.

Development in the catchment, hydrological changes, high nutrient inputs and a history of severe macroalgal blooms have led to an accumulation of both sandy sediments and fine, black sulfidic sediments). Sediment deposition can interfere with water flow, fish movement and recreational use, and there are increasing community concerns about deteriorating amenity and unpleasant odours during low water levels, where sediment deposits are exposed even more. Reduced rainfall associated with climate change is also impacting on water flows.

Managing sedimentation was identified as a high priority during the preparation of the *Toby Inlet Waterway Management Plan* (2019). As a result, the City commissioned a study into the extent of sedimentation in TI and how this could be managed. The *Sediment Study* (Ottelia, 2020) concluded that the restoration of habitat values in TI is unlikely to be achieved without the removal of accumulated black sediment. It recommended the staged removal of sediments in priority areas, from Wilson Avenue to the footbridge, equivalent to approximately 60,300m³ of sediments or an average of 80cm deep. The study specifies that different dredging techniques will be required, some of which will require scientific trials.

The City applied for external funding to trial mechanically stirring sediments in the lower section of the inlet during high flows in winter to disperse the sediments into the ocean; one of the key recommendations from the study. The application was unfortunately not successful. Future sources of funding are being investigated, noting this work has significant costs and may cause disturbance to the environment and would therefore require detailed planning and investigations prior to implementation. Without significant additional funding and resources, the City is not able to prioritise large scale sediment removal in Toby Inlet. Access to areas of the inlet is also constrained by residential properties along the inlet, further adding to logistical limitations of sediment removal in the inlet.

The Toby Inlet Catchment Group (TIC Group) has been one of the most active Friends of Reserve groups in the district, undertaking annual rehabilitation and revegetation of foreshore reserves near Toby Inlet. Partnership with the TIC Group is vital to the ongoing restoration of foreshore areas along the inlet with the City continuing to provide support to the volunteers.

Toby Inlet is managed in accordance with the *Toby Inlet Waterway Management Plan* (2019).

Structure and Governance

The City's waterway management role sits within the structure of Revitalising Geographe Waterways (RGW), established in 2015, and is coordinated by the Vasse (Ministerial) Taskforce (the Taskforce). The RGW program works across the broader catchment to reduce nutrients entering waterways from urban and rural areas. The program has also expanded its focus to investigate ways to fast-track water quality improvements within the waterways.

The Taskforce is chaired by a representative of the Minister of Water, and is a partnership between the state government, respective local governments, water authorities, and catchment groups. The Taskforce provides strategic direction and support to the lead agencies responsible for delivering projects under the RGW program, and through GeoCatch reports to the community on outcomes of activities undertaken to improve waterway health.

The Independent Review of the *Current and Future Management of Water Assets in the Geographe Catchment* undertaken by Professor Barry Hart (2014), noted the lack of an obvious lead agency for the LVR, and the need for greater support to the TIC. Following a review of possible future management options, the report recommended the establishment of an overall lead agency to coordinate the separate asset management arrangements.

The Vasse Taskforce was formed, and the following interim asset management structure was adopted:

Lead Agency	**Asset**
City of Busselton	LVR and TI
GeoCatch	Geographe Catchment
Vasse Wonnerup Partnership	Vasse Wonnerup Wetlands
DBCA	Broadwater Wetlands
Water Corporation	Drainage Network

The City committed to be the 'Interim Asset Manager' for the LVR and TI, and as part of that commitment led the preparation of Waterway Management Plans for both. The City does not have a statutory obligation to manage either waterway and could decide to cease being the Interim Asset Manager. However:

- the two waterways are important to the City and our communities;
- the health and management of these waterways intersects the jurisdiction of numerous agencies, and there is no clear single responsible waterway manager. If the City does not agree to play a significant role, it may be at the detriment of the waterways; and
- by showing commitment to management of the two waterways, the City is sending a message to the state government, highlighting the importance of the issues, and showing that the City is prepared to play a significant role.

It is however important to recognise that there are many factors affecting both waterways from diffuse sources and outside the control of the asset manager; and as such a continued partnership approach is required.

In May 2023, the City reiterated its commitment to the role of Interim Asset Manager (C2305/093) but noted that this commitment is contingent upon continued technical and financial support from

the state government, and the state government's continued commitment to broader waterway and water quality management in the Geographe Bay catchment.

The complex and difficult nature of the issues, and the high level of scientific and technical understanding required to identify and assess strategies, means that the City is not able to determine what those strategies should be. Instead, the state government, through DWER (Department of Water and Environmental Regulation) and the Taskforce especially, need to play a critical role in determining strategic direction.

Approach for assessing water quality improvement trials
Waterway management programs, works and trials within the Geographe region are assessed and prioritised under the structure of RGW and the Taskforce. The Taskforce has formally endorsed use of the *Vasse Taskforce Water Quality Decision Support Framework* for assessing and prioritising works, programs, and trials. The Framework provides a robust and consistent process for assessing proposals and providing confidence to waterway managers and the Taskforce in prioritising and funding trials and implementing water quality improvement initiatives. The Framework considers factors such as:

- Effectiveness – scientific rationale
- Appropriateness – alignment with waterway management plans
- Environmental impacts – short and long term environmental risks associated with the measure
- Social impacts – social/health risks
- Ease of implementation – practicality of implementation
- Cost – cost effectiveness (including initial, annual applications etc.)
- Maintenance – short and long-term maintenance and product application
- Proponent - experience, reputation and expertise

The LVR and TI are both host to significant ecological values and are afforded regulatory protection which reflects this. Officers are not able to implement water quality treatment technologies or products that have not been rigorously tested and scientifically documented. In May 2023, Council (C2305-093) confirmed the need for a considered approach and demonstrated process to considering water quality improvement trials in the Lower Vasse River and Toby Inlet, informed primarily by advice from the DWER Aquatic Science branch, or other appropriately qualified, experienced and independent technical or scientific specialists.

OFFICER COMMENT

The City and its partners undertake a variety of activities to improve or advocate for the improvements of waterways. A summary of those activities is provided below.

The Lower Vasse River Sediment Removal Program
In May 2023, the Council committed (C2305/093) to the staged removal of nutrient-rich sediments between the Busselton Bypass and the Busselton Butter Factory Museum as the City's short-term priority focus (Stage 3), subject to procurement, funding and regulatory approval, and the review of its effectiveness at improving water quality, before committing to further stages of sediment removal beyond Stage 3.

Sediment removal has historically been viewed by many stakeholders, particularly the community, as an essential component of management of the LVR.

Sediment removal is not anticipated to prevent algal blooms alone. Nutrient concentrations in surface and groundwater inputs individually are sufficient to fuel seasonal algal blooms in the river. Nutrients however may be released from the sediments when there is low dissolved oxygen or when sediments are disturbed, contributing to algae problems. Accumulated sediments may also pose an aesthetic issue, particularly when exposed by low water levels during summer months.

Dredging in natural waterways poses a risk to the natural environment and needs to be managed carefully. Approvals were granted under the Environmental Protection and Biodiversity Conservation (EPBC) Act 1999, Biodiversity Conservation Act 2016, and Aboriginal Heritage Act 1972 with stringent conditions associated with water quality monitoring, management of Carter's Freshwater Mussels and treatment of Acid Sulfate Soils.

Due to the large volumes of sediments, a staged approach is necessary to minimise environmental impacts and logistical constraints. Staging of the dredging process was prioritised on a values basis as opposed to in a linear fashion, with locations for the initial stages of sediment removal selected based on several factors, including severity of annual algal blooms, level of public access, and technical advice and information available at the time. Availability of suitable land for the laydown area and dewatering process was also considered.

Stage 1 of the Sediment Removal Program (SRP) was completed in 2022, with 630 tonnes dry solid removed from the river between the Causeway Road Bridge the pedestrian bridge adjacent to Cammilleri Street. Stage 2 was then completed in 2023, from Causeway Road to the Old Boat Ramp, removing an estimated 700 tonnes of dry solid material.

Sediments were removed from the river as a slurry using a micro-dredge and pumped into mesh geotextile bags, retaining the sediment and returning dewater to the river. The geotextile bags were left to dewater for approximately six months, after which sediments were transported to the Rendezvous Road Waste Transfer Station (Busselton) and treated for Acid Sulfate Soils (ASS) by incorporating lime and sand. Once the ASS neutralisation was verified, sediments were transported to the Vidler Road Waste Facility (Dunsborough) for reuse as daily cover at active landfill cells. Several improvements were made during Stage 2, based on learnings from Stage 1.

There are several ways of measuring success, which all contribute to the assessment of the project. The amount of sediment and nutrient removed from the river can be measured either by comparing the volumes of sediments in situ before and after sediment removal, or by measuring the quantity of sediment transported off site. Additionally, the nutrient load removed can be calculated by measuring the concentration of nutrient contained sediment transported off site.

In situ sediment volume and depth was measured by using pre and post dredging surveys for both stages. There are significant limitations with measuring sediment volumes in situ. Sediment in the LVR has a high organic content and the fine and flocculent nature of this sediment means that it is prone to pluming with minimal disturbance. Due to this characteristic, sediments before and after dredging (an activity that causes high levels of disturbance) will have very different compaction and density rates. Additionally, the need to extrapolate volume data from a limited number of survey points reduces the accuracy of extrapolation of the sediment volumes. Sediments in situ are highly compacted following years or even decades of accumulation, so the final volume once dredged is likely to have a considerably lower density that pre-dredge sediment, meaning that the ability to compare volumes is largely negated. Core sampling was also undertaken, which confirmed the difficulty in relying on measuring sediments in situ.

Recognising the high level of uncertainty highlighted above, it is estimated Stage 1 removed between 33% and 42% (or an average of 37.5%) of sediments in the 180m section of river between the pedestrian bridge and the Causeway Road Bridge.

Another methodology to measure sediments removed from the river is by measuring the volume of slurry pumped and the percentage solids (bone dry) in the slurry. Apex Envirocare used a solids analyser during the Stage 1 works and recorded 630 tonnes dry solids of sediments removed. This is measured continuously and updated during pumping. This method was not able to be used for the Stage 2 works due to damage to the solids analyser during the Stage 1 works. However, the Stage 1 data was used to inform the concentration of solids in the slurry (total dissolved solids, TDS), estimating the removal of 700 tonnes dry solids in Stage 2.

The program has been successful in removing a significant sediment load, approximately 630t and 700t dry weight respectively from the first two stages. The program also removed the following nutrient load (based on total dewatered dredge volumes).

Project Stage	Nutrient	Min (t)	Max (t)	Avg (t)
Stage 1 1,638t	Total Nitrogen	10.2	15.8	11.8
	Total Phosphorus	1.9	3.2	2.7
Stage 2 1,484t	Total Nitrogen	4.5	12.5	9.0
	Total Phosphorus	0.4	2.5	1.2

It is important to note that the intent was never to remove all sediments due to the significant challenges associated with dredging in a natural waterway. Sediments also contain seed and egg banks of aquatic plants and invertebrates; these are important for the system to self-rehabilitate after dredging works.

While the program has been successful in removing considerable sediment and nutrient loads, ongoing water quality monitoring has identified that high concentrations of nutrients were fed back to the river via return water from sediments during the dewatering process. High nutrient concentration in dewater was a risk that was identified during the program inception.

To mitigate this risk, in Stage 1, Phoslock®, a phosphorus-binding clay, was applied to return water prior to re-entry to the river. Phoslock® has successfully been used worldwide to reduce bioavailable phosphorus in aquatic environments. Unfortunately, due to the complex chemical composition of the sediment, Phoslock® was not effective in sufficiently treating the return water. In Stage 2, DWER collaborated with the City and trialled filtering dewater through an off-river treatment system containing Phosflow, beads that are designed to bind the bioavailable phosphorus. A triple filtration system using this product was successful in treating dewater during the trial. However, to scale-up this method to treat all dewater would be prohibitively expensive.

Assessment of the value of the sediment removal program will ultimately be determined by whether the removal of sediments leads to improvements in water quality. The City, in partnership with DWER has developed an ongoing water quality monitoring program to measure impacts from the removal of sediments. It will take several years, proceeding each stage, before meaningful conclusions can be made due to the lag time associated with any potential water quality improvements.

The City has been successful in securing state government part-funding for Stage 3 sediment removal upstream from the Strelly Street Bridge. Stage 3 provides additional constraints due to the proximity of residences, amount of vegetation on the river banks, morphology of the river and the need to manage Carter's Freshwater Mussels.

Environmental monitoring and reporting from Stages 1 and 2 demonstrated effective management of disturbances to water quality during sediment removal works, where no 'stop work' was required. The current sediment removal methodology (of micro-dredge and Geotextile bags) has also proven to be effective in mitigating acid sulphate soil (ASS) risks, and, as stated above, in removing a substantial load of sediment and nutrients from the river. However the undesirable volume of nutrients returned to the river via return water and concerns over whether the current method removes an adequate portion of sediment from the riverbed, has led the City to investigate and prioritise alternative methods for Stage 3, such as, in situ dewatering and direct excavation, which would necessitate rescheduling of sediment removal to occur in summer/autumn, and possibly additional approvals.

The City has requested tenders for both the current method as well as alternatives and is currently finalising assessment of the tender responses. Investigating an alternative method has introduced complexity and potential delays to the stage 3 works, and if details of proposals cannot be resolved satisfactorily or if approvals cannot be secured for proposals, the need may arise to return to the market for re-tender.

The City is currently committed to sediment removal in the river. While in situ dewatering and direct excavation will initially add significant complication and potentially project delays, it is hoped that it will in time (once the new method has been established) be more financially viable, time efficient and will remove a greater proportion of both sediment and nutrient loads from the river.

It will be important to continuously review the benefits of sediment removal and how it compares with other waterway improvement techniques. The Council previously resolved (C2305-093), to assess the impacts of sediment removal on cyanobacterial blooms in the river in 2025/2026 using data from three years of water quality monitoring, to then make a decision as to completion of stages 4, 5 and 6; and whether the City seeks to prioritise further funding for sediment removal.

Oxygenation/aeration
Refer to Committee Report detailing proposed Aeration Trial via Agenda Item 7.3

Large scale application of phosphorus binding clay
Phoslock is a commercially available clay which binds bioavailable phosphorus in the water column, making it unavailable to fuel algal growth, and caps the sediment preventing resuspension of phosphorus into the water column. It is used extensively in Australia and worldwide to improve water quality. The application of Phoslock® was trialled in the LVR in the early 2000's. DWER also trialled the application of a newly developed phosphorous-binding hydrotalcite-clay (HT-clay) in 2016/17 and 2017/18. Both trials demonstrated that the clays were effective at improving water quality, with the HT-clay able to reduce algal blooms even after the bloom was established. Phoslock® requires annual applications to maintain the water quality benefits, it is understood however, that over time smaller applications may be required.

DWER secured $100,000 in funding from RGW towards implementing a large-scale application of Phoslock® (HT clay is not currently commercially available) to a section of the river. The intention of the trial was to scope out practical requirements, costs and effects on water quality for ongoing

Phoslock® programs in the LVR. Applications of Phoslock® elsewhere highlight the complimentary role that phosphorus-binding clays can play in fast-tracking water quality improvements in aquatic environments, while more long-term, slow-acting, programs are implemented.

Initial results from the summer 2023/2024 large-scale trial of Phoslock® suggest that, although the treatment was successful in binding bioavailable phosphorus to below detection limits, microalgal blooms were still present across summer and autumn. DWER has suggested that algal blooms during the trial were not fed by sediments or surface water but were believed to be fuelled by groundwater contaminated with nutrients. Groundwater feeding the LVR is believed to be contaminated with nutrients from septic tanks from the Busselton Light Industrial Area (Busselton LIA).

Light Industrial Area (LIA) Infill Sewer
The Council Decisions has in May 2023 and in August 2024 (C2407/233) resolved to advocate to the state government to prioritise and fund reticulated sewer in the Busselton Light Industrial Area.

Council Decision C2305-093 (May 2023):
16. Requests the CEO to continue advocating with the State Government for prioritising infill sewer in the Busselton Light Industrial Area.

Council Decision C2407/233 (August 2024):
That the CEO in relation to the Lower Vasse River:
5. Writes to the Minister (noting the asset is vested in the State) outlining the community concern in relation to cyanobacteria and health risks, and the link to illnesses citing research papers (noting the Minister's reference to the NHMRC of 08/04/2024) requesting a higher level of funding to complete, but not limited to dredging, trials, and remediation of the River to alleviate repeat cyanobacterial issues as a matter of urgency.

Groundwater input through leachate from septic systems has been identified as a significant contributor to excessive nutrient concentrations fuelling cyanobacterial blooms in the LVR; similarly, the Wonnerup Estuary is understood to be deleteriously impacted by leachate from local residential septic systems. Modelling from the draft Water Quality Improvement Plan (DWER, 2023) shows that septic systems are responsible for 11.4 per cent of nitrogen and 27.9 per cent of phosphorus discharging into the LVR. A significant portion of the Busselton LIA is currently not connected to sewer infrastructure, with 150 septic tanks discharging leachate to groundwater adjacent to the river. The WA Water Corporation is responsible for managing wastewater in Western Australia, with the state government funding and directing extensions to the sewer network.

The City is a strong advocate of reticulated sewer in both the Busselton LIA and the Wonnerup residential area and has repeatedly appealed for infill sewer in the in these areas. Without delivery of reticulated sewer in in the Busselton LIA and Wonnerup residential area waterway managers will be unlikely to be able to control microalgal blooms and amenity in these areas, regardless of any other water quality and nutrient remediation programs.

The City continues to advocate that the state government prioritise the connection of the Busselton LIA and Wonnerup area to reticulated sewer. The City has formally requested (August 2024) that the Vasse Taskforce work to prioritise and further progress advocating to the state government for installation of infill sewer in these areas. Additionally, the City is currently drafting a letter to relevant Ministers to request that the state government prioritise restoration of the health of the LVR and address community concerns regarding health implications of annual cyanobacterial blooms by:

- prioritisation and funding of reticulated sewer in the Busselton LIA and the Wonnerup residential area; and
- allocation of funding for river restoration works and trials conducted by the City of Busselton.

Statutory Environment

The City's waterway management role sits within the structure of Revitalising Geographe Waterways the Vasse Taskforce. The health and management of these waterways intersects the jurisdiction of numerous agencies, and there is no clear single responsible waterway manager.

The City has committed to be the 'Interim Asset Manager' for the LVR and TI. The City does not have a statutory obligation to manage either waterway and could decide to cease being the Interim Asset Manager. In May 2023, the City reiterated its commitment to the role of Interim Asset Manager (C2305/093-) but noted that this commitment is contingent upon continued technical and financial support from the state government, and the state government's continued commitment to broader waterway and water quality management in the catchment.

Relevant Plans and Policies

The officer recommendation aligns to the following adopted plan or policy:

Plan:
Lower Vasse River Waterway Management Plan
Toby Inlet Waterway Management Plan

Policy:
Environment

Financial Implications

Not Applicable with reference to this report. It is however important to recognise that the continued treatment and management of the LVR and TI has financial implications and requires ongoing funding from the State Government (as well as in part the City).

External Stakeholder Consultation

Not applicable.

Risk Assessment

An assessment of the potential implications of implementing the officer recommendation has been undertaken using the City's risk management framework, with risks assessed considering any controls already in place. No risks of a medium or greater level have been identified.

Options

Not applicable.

CONCLUSION

The City of Busselton performs waterway management in collaboration with key partner agencies, under the banner of RGW and the Vasse Taskforce. As the current Interim Asset Manager, is primarily responsible for management of the Lower Vasse River and Toby Inlet. The City, in accordance with developed waterway management plans, performs both ongoing works, such as bar opening at TI, stormwater management, and riparian rehabilitation, as well as intensive programs such as the sediment removal in the LVR.

The initial two stages of the sediment removal program in the LVR are complete, and learnings from these stages have been used to inform a potential methodology change for Stage 3

TIMELINE FOR IMPLEMENTATION OF OFFICER RECOMMENDATION

Not applicable

7.2 Waterway Management Community and Stakeholder Engagement Plan

Strategic Theme:	Key Theme 1: Environment 1.3 Work with key partners to improve the health of the Vasse River and other waterways in the Geographe catchment.
Directorate:	Office of the CEO
Reporting Officer:	Community Engagement Officer - Eloisa Pickerill
Authorised By:	Chief Executive Officer - Tony Nottle
Nature of Decision:	Advocacy: to advocate on its own behalf or on behalf of its community to another level of government/body/agency.
Voting Requirements:	Simple Majority
Disclosures of Interest:	No officers preparing this item have an interest to declare.
Attachments:	1. City of Busselton Waterway Management Community and Stakeholder Engagement Plan [**7.2.1** - 10 pages]

COMMITTEE RECOMMENDATION

WM2410/2 Moved Cr Mikayla Love, seconded Ms Vicki Viela

That the Committee receives and notes the proposed Waterway Management Community and Stakeholder Engagement Plan.

CARRIED 6/ 0

FOR: Cr Anne Ryan, Cr Val Kaigg, Cr Mikayla Love, Cr Jarrod Kennedy Mr Steve Disley and Ms Vicki Viela

AGAINST: Nil

OFFICER RECOMMENDATION

That the Committee receives and notes the proposed Waterway Management Community and Stakeholder Engagement Plan.

EXECUTIVE SUMMARY

This report outlines the City's proposed community engagement approach from November 2024 to January 2025 relating to the management of local waterways, including the Lower Vasse River and Toby Inlet.

STRATEGIC CONTEXT

The Waterway Management Committee will provide oversight and direction for the City's work with key partners to improve the health of the Lower Vasse River and other waterways in the Geographe catchment. Community and stakeholder engagement forms a key element of this work and was one of the drivers behind establishment of the Committee.

BACKGROUND

The City of Busselton is the interim asset manager for both the Lower Vasse River and Toby Inlet. Both waterways face complex long-term water quality issues. Due to this complexity, it is important that the community is provided with opportunities to fully understand the City's management strategies for and be kept regularly informed on the progress of the work being undertaken to manage these water bodies.

In May 2023, the Council made a resolution on 17 items (C2305/093) with regard to the City's role as Interim Asset Manager of the Lower Vasse River and Toby Inlet. Item number 13 of this resolution endorsed a broad community and stakeholder engagement model. The engagement plan in attachment 1 is an updated version of the plan prepared in response to the Council's decision and has been prepared to show the activity plan for the period from November 2024 to January 2025. This updated engagement plan outlines the key goals and actions for engaging with the community on waterways management matters.

At the Ordinary Council Meeting in January 2024, the Council resolved to establish the Waterways Management Committee, which has been formed following the disbandment of the previous Lower Vasse River Management Advisory Group. This will be the first engagement approach presented to the Waterways Management Committee.

The previous engagement strategy outlined several opportunities to engage and inform the community, including holding biannual Open Days. The first Open Day occurred in November 2023 and was held at the City of Busselton's Administration Building. The event was held in partnership with key waterway management stakeholders, including Department of Water and Environmental Regulation (DWER) and GeoCatch. There was low community attendance on the day (14 people). A proposed second open day was also scheduled for 2024, however, this did not end up going ahead due to key partners being unable to attend. The Council was informed at the time of the need to cancel, and a commitment was made to bring a new engagement plan to the new Waterways Management Committee to refocus and refresh the City's engagement efforts with its partners into the future.

Lower Vasse River project updates were provided on the City's website and Your Say page in April, May and June 2024 to ensure the most recent information was openly available to the wider community.

Community updates online over the course of 2024 have been provided on topics such as the completion of Stage 2 sediment removal process and the advertisement of the tender for Stage 3. Additional updates include information about the City's trial pit established to enable testing of approximately 4 tonnes of sediment removed from the Lower Vasse River, and an update about tree planting which was undertaken by City staff along the banks of the Lower Vasse River.

OFFICER COMMENT

The previous Waterway Stakeholder and Community Engagement Plan is out of date and has been updated for the period November 2024 to January 2025, while firmer commitments can be negotiated with project partners. The proposed plan reflects the commitment to keep the community informed on updates and projects affecting the Lower Vasse River and Toby Inlet

through the uploading of information to the City's website and providing communications via social media and the Bay-to-Bay e-newsletter, as required. It is also proposed that the City will collaborate with DWER and GeoCatch to provide opportunities throughout the year to partner on events and ensure transparent and aligned information sharing.

Upon reviewing the previous engagement approach, officers have removed the use of Your Say for providing community updates, instead directing information to the City's official website. This enables a wider audience reach, is easily searchable and reflects the City's approach of having all available information on the main website where it is easy to find. From January 2025, it is proposed that monthly updates or frequently asked questions will be uploaded to the website, providing a consistent channel of information to the community.

The City and DWER had a meeting in October 2024 to discuss opportunities for collaboration on community programs and events in 2025. All agencies note that the current perception within the community is that not enough is being done to improve the river. It is anticipated that through more regular communication of the work currently being conducted, and alignment of messages and information from all agencies involved, the ability to conduct valuable in-person engagements in the future will be possible. These activities are proposed to start in 2025, through City officer attendance at DWER programs and events. An update on this can be provided in January 2025.

The key messages relating to communications for the waterways are as follows:

- That the Lower Vasse River and Toby Inlet have been impacted by the cumulative effects of approximately 100 years of agriculture, urban development, flood management, and more recently impacted by climate change.
- Water quality issues in both waterways are complex, long-term problems, very similar to those seen globally, and effective management requires long-term solutions.
- The long-term solutions to manage nutrient inputs in the catchments and waters should be complemented by ongoing short-term solutions for more immediate improvements in water quality and amenity.

Understanding that the waterways are of very high importance to the community, officers recognise the need to keep the public informed about management approaches and outcomes.

Statutory Environment

The Lower Vasse River is an asset owned by the WA State Government. The City is the current Interim Asset Manager.

Relevant Plans and Policies

The officer recommendation aligns to the following adopted plan or policy:

Plan:
City of Busselton Local Environmental Planning Strategy 2011
Lower Vasse River Waterway Management Plan 2019
Toby Inlet Waterway Management Plan 2019.

Policy:
Not applicable.

Financial Implications

Engagement activities will be managed within existing budgets and resources.

External Stakeholder Consultation

The City has commenced discussions with DWER and GeoCatch and will continue to liaise with these partner agencies as work progresses.

The 2024 MARKYT Community Scorecard was a wide-reaching community perceptions survey, through which it was clear the health of the Lower Vasse River (and other waterways) was a top priority for the City to continue to address.

Risk Assessment

An assessment of the potential implications of implementing the officer recommendation has been undertaken using the City's risk management framework, with risks assessed considering any controls already in place. No risks of a medium or greater level have been identified.

Options

Not applicable.

CONCLUSION

In summary, the proposed Waterway Management Community and Stakeholder Engagement Plan aims to provide effective communication to the community on the Lower Vasse River and Toby Inlet. This will be conducted through website updates, Bay-to-Bay e-newsletters and social media content, as required. Collaboration with DWER on future events and opportunities will be explored to provide in-person engagement with the community.

TIMELINE FOR IMPLEMENTATION OF OFFICER RECOMMENDATION

The officer recommendation will be implemented in stages as per the following table:

Milestone	Completion Date
Deliver the attached 3-month Waterway Management Community and Stakeholder Engagement Plan	January 2025
Continue to work with partner agencies to review opportunities for more active community engagement throughout 2025	December 2025

7.3 Aeration Trial

Strategic Theme:	Key Theme 1: Environment 1.3 Work with key partners to improve the health of the Vasse River and other waterways in the Geographe catchment.
Directorate:	Infrastructure and Environment
Reporting Officer:	Director Infrastructure and Environment - Oliver Darby
Authorised By:	Director Infrastructure and Environment - Oliver Darby
Nature of Decision:	Executive: Substantial direction setting, including adopting budgets, strategies, plans and policies (excluding local planning policies); funding, donations and sponsorships; reviewing committee recommendations.
Voting Requirements:	Simple Majority
Disclosures of Interest:	No officers preparing this item have an interest to declare.
Attachments:	Nil

COMMITTEE RECOMMENDATION

WM2410/3 Moved Mr Steve Disley, seconded Cr Val Kaigg

That the Council requests the CEO to proceed with a subsurface aeration trial (subject to attaining the appropriate approvals) on a section of the Lower Vasse River to determine feasibility for the method to improve water quality and reduce the occurrence of algal blooms in the Lower Vasse River.

CARRIED 6 / 0

FOR: Cr Anne Ryan, Cr Val Kaigg, Cr Mikayla Love, Cr Jarrod Kennedy Mr Steve Disley and Ms Vicki Viela

AGAINST: Nil

OFFICER RECOMMENDATION

That the Council requests the CEO to proceed with a subsurface aeration trial (subject to attaining the appropriate approvals) on a section of the Lower Vasse River to determine feasibility for the method to improve water quality and reduce the occurrence of algal blooms in the Lower Vasse River.

EXECUTIVE SUMMARY

This report seeks Council endorsement to proceed with a subsurface aeration trial on a section of the Lower Vasse River to determine whether this methodology would be suitable for the long-term improvement of water quality and reduction of algal blooms in the Lower Vasse River (LVR). The trial would be subject to attaining approvals from the Vasse Taskforce and relevant government agencies.

STRATEGIC CONTEXT

The officer recommendation aligns with Strategic Priority 1.3: Work with key partners to improve the health of the Vasse River and other waterways in the Geographe catchment, and (less directly) to Strategic Priority 1.2: Work with the community to manage and enhance natural areas and reserves and their biodiversity.

BACKGROUND

The City of Busselton is currently the Interim Asset Manager for the LVR, working as part of the Revitalising Geographe Waterways program and the Vasse Taskforce to improve the water quality of the LVR (and Toby Inlet). Water quality issues have caused considerable community concern, with local rivers, inlets and waterways, one of the highest priorities cited by the community in the recent MARKYT Community Scorecard Survey.

The City continues to implement strategies to improve the LVR (and Toby Inlet), in accordance with adopted waterway management plans. Item 7.1 provides an update of previous and current works.

Further to these works, there has been significant community and officer interest in the potential of subsurface aeration, oxygenation and mixing of water within the LVR to reduce cyanobacterial blooms, by using fine air bubble diffuser systems. Oxygenation is not currently necessary in the LVR due to existing appropriate levels of dissolved oxygen, aeration and water mixing. However, companies supplying subsurface aeration systems have advised these systems have been used successfully in conditions similar (although not identical) to that experienced in the LVR, where algal blooms are present. Note, at present there have been no identified identical circumstances to the LVR. Systems have however, been used with reported success in water treatment systems, lakes, and dams.

This report recommends that the City progresses a trial of an aeration system subject to the appropriate approvals being obtained.

OFFICER COMMENT

Officers are seeking the opportunity to work with appropriately experienced contractors/suppliers to trial sub surface aeration, oxygenation and/or water mixing systems, that may have the potential of improving water quality in the long term for the length of the LVR. These systems consist of weighted pipes that, when connected to a compressed air pump, produce bubbles that agitate the water and introduce air into the water body.
Companies supplying these systems have advised they have been successful in various situations where water quality has been problematic on an ongoing basis.

While there are many factors that influence water quality in the LVR (as detailed in agenda item 7.1), officers recommend a trial of these systems in a section of the LVR that can be hydrologically separated (using floating curtains) so that the water quality can be monitored to assess trial outcomes. This trial would be additional to the ongoing work of current management strategies as per the LVR Waterway Management Plan.

It is essential that the trial is not detrimental to the already existing sensitive water quality issues, flora, and fauna. The method may have the potential to introduce detrimental effects to the waterway. Any risks will need to be adequately mitigated, and it is not yet clear whether this water treatment method will be a viable long turn solution. Should the Committee and subsequently

Council agree to proceed with the trial, officers will work with the Vasse Taskforce and various agencies to determine the most appropriate way to proceed, and to seek the appropriate approvals and environmental management consultant.

The exact approvals, control and testing requirements however are currently unknown and will be further understood (and communicated to the Council as required) through the approvals process and development of trial management plan. As the infrastructure associated with the trial is not considered to be significant, we would expect the main conditions to be associated with ensuring there is no deterioration of water quality associated with the trial, including to downstream environments.

Officers would also need to work with regulators and waterway management stakeholders to ensure that the information received from the trial is relevant to make ongoing decisions with regards to the feasibility of this water treatment method.

While it is unknown how long these processes will take, officers hope to be able to commence a trial in February 2025 or appropriate timeline as suggested by Environmental experts and Agencies.

Statutory Environment

To proceed state and federal government approvals will be required. Additionally, endorsement will be required from the Vasse Taskforce and associated Government agencies, in particular the Department of Water and Environmental Regulation (DWER).

Relevant Plans and Policies

The officer recommendation aligns to the following adopted plan or policy:

Plan:
Lower Vasse River Waterway Management Plan

Policy:
Environment

Financial Implications

Costs associated with the potential trial are estimated to be in the region of $50,000 which includes, the provision of curtains, power supply, compressed air pumps, water quality monitoring, approvals, and management plans which will be covered by existing budgets.

External Stakeholder Consultation

Initial discussions with DWER have indicated that the most appropriate method to progress the trial is assessment under the *Vasse Taskforce Water Quality Decision Support Framework,* for review by the Taskforce.

Risk Assessment

No risks of a medium or greater level have been identified, with progression of the trial subject to approval requirements.

Options

As an alternative to the proposed recommendation the Council could determine not to proceed with the trial, and to continue with its current management strategies.

CONCLUSION

Subject to obtaining approvals from the Vasse Taskforce and appropriate government agencies, officers recommend proceeding with a subsurface aeration trial on a section of the LVR to determine whether this methodology would be suitable for the long-term improvement of water quality and reduction of algal blooms for the length of the LVR.

TIMELINE FOR IMPLEMENTATION OF OFFICER RECOMMENDATION

Officers will commence seeking the various agency approvals as soon as Council decides to proceed with the trial. However, no timeline can be provided for this approval process.

8 CONFIDENTIAL MATTERS

Nil

9 NEXT MEETING DATE

Wednesday 11 December 2024.

10 CLOSURE

The meeting closed at 9.46am.

These minutes for the Waterways Management Committee meeting were confirmed as a true and correct record on:

Date:

Presiding Member: