

## Our progress on the recommendations from the Tuggerah Lakes Expert Panel

In 2020 the NSW Government created an independent Expert Panel (TLEP) in response to community concern over water quality in the Tuggerah Lakes estuary. The Expert Panel produced a report containing over 50 recommendations which was released in 2021, Central Coast Council has welcomed and made genuine effort to enact and holistically integrate into the development of our new Coastal Management Program. Here is an update on our progress.

| TLEP - Theme                        | TLEP - Recommended Action  | Council Support?        | Status Jan 2022        | Progress update - Jan 2022  |
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|                                     | <b>TLEP - Recommended Action</b>   | <b>Council Support?</b> | <b>Status Jan 2022</b> | <b>Progress update - Jan 2022</b>   |
| <b>Engagement and communication</b> | Focus engagement on learning together rather than solving 'the problem' or 'fixing' the Lakes.   | Yes                     | Underway               | Established through documents such as the <i>Tuggerah Lakes Coastal Management Program Community and Stakeholder Engagement Strategy</i> and includes for example, targeted focus groups and the upcoming Changemaker Course. |
|                                     | Work with the community to grow a shared understanding of the Lakes' management dilemmas – what is actually going on and what makes managing the Lakes so difficult. | Yes                     | Planned                | Established through documents such as the <i>Tuggerah Lakes Coastal Management Program Community and Stakeholder Engagement Strategy</i> and includes for example, targeted focus groups and the upcoming Changemaker Course. |
|                                     | Build on the dilemma work to co-create a shared picture of the realistic and preferred outcomes for the Lakes.   | Yes                     | Planned                | Planned into documents such as the <i>Tuggerah Lakes Coastal Management Program Community and Stakeholder Engagement Strategy</i> and will include specific focus group activities in Stage 2/3/4 CMP.                        |
|                                     | Work with the community to design and agree to a decision-making process to determine potential and prioritised management actions, and to implement them.           | Yes                     | Planned                | Planned into documents such as the <i>Tuggerah Lakes Coastal Management Program Community and Stakeholder Engagement Strategy</i> and will include specific focus group activities in Stage 2/3/4 CMP.                        |

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| <b>Entrance Channel</b> | Based on available information, the <u>existing entrance should not be trained, nor extensively dredged</u> . The existing studies indicate that there would be a minor increase in tidal exchange and that the potential impacts on water quality and ecology are not well understood. | Yes | Underway | Noted and carried forward into Entrance Management Study and Interim Entrance Management Procedure as well as subsequent Stage 2 Studies and Stage 3 Strategy. |
|                         | Undertake <u>Coastal Vulnerability Area mapping and put forward as a Planning Proposal</u> as part of the TLCMP.  | Yes | Planned  | Initial step is Tidal Inundation and Sea Level Rise Assessment in Stage 2. Needs to integrate into flood planning processes.                                   |
|                         | ...undertaking feasibility assessment to review (i) water level impacts, (ii) tidal exchange, (iii) clarity impacts, and (iv) socio-economic and tourism impacts. Use this information to ascertain whether dredging represents a reasonable ongoing investment.                        | Yes | Planned  | Stage 2 study.   |
|                         | If dredging is found to be a reasonable investment, develop and implement a practical and transparent monitoring program with improved dredging triggers and negotiate with relevant authorities to develop a protocol which enables rapid response and dredging when required.         | Yes | Planned  | Stage 3 Strategy.  |
|                         | <u>Continue dredging of the entrance in the medium term</u>   | Yes | Underway | Dredging completed in 2020 and proposed for 2022.  |
|                         | <u>Examine past dredging expenditure</u> and work with relevant agencies to <u>agree upon a clear and reliable funding structure for future dredging over the medium term</u> . Reliance upon contestable grants programs is unlikely to provide the required certainty of funding.     | Yes | Planned  | Initial step is Stage 2 study.   |

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| <b>Overarching</b>                          | Develop <u>strategic and measurable plans for dredging, wrack management, nearshore water quality, stormwater management, entrance flood management and sustainable catchment development</u> . Integrate these plans into the TLCMP.  | Yes | Planned | Included in Tuggerah Lakes Estuary CMP Scoping Study, to be completed in Stage 3/5. |
|   | Communicate these plans (Action 1: strategic and measurable plans for dredging, wrack management, nearshore water quality, stormwater management, entrance flood management and sustainable catchment development) thoroughly, openly and transparently with the community in a proactive manner.  | Yes | Planned | Included in Tuggerah Lakes Estuary CMP Scoping Study, to be completed in Stage 3/5. |
|   | Develop a <u>detailed dredging management strategy</u> that outlines where, when and, most importantly, why dredging should be undertaken in the entrance channel. Further, the development of dredging plans should be based on a conversation with the community stakeholders and the best available science, with results reported back to the relevant stakeholders at prescribed intervals. | Yes | Planned | This is dependant on the outcomes of Stage 2 & Stage 3 CMP studies/ plans.          |
| <b>Catchment management recommendations</b> | Strengthen the current program and help foster ownership and improved understanding of Water Sensitive Urban Design (WSUD) in the catchment via <u>citizen science programs</u> .  | Yes | Planned | Incorporated into Tuggerah Lakes Estuary Education and Communication project        |

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| <b>Opportunities</b>                | Use community education centre space (e.g. Marine Discovery Centre) to showcase water sensitive urban design, including a raingarden. Include tools to educate and support people to build their own.  | Yes         | Planned  | Incorporated into Tuggerah Lakes Estuary Education and Communication project  |
|                                     | Adopt a catchment wide approach for the Tuggerah Lakes CMP.  | Yes         | Underway | The Tuggerah Lakes CMP Scoping Study identifies the geographical scope of the CMP to include the estuary, catchment and entrance to the ocean. The upstream boundary of the CMP aligns with the catchment boundary, as catchment practices and inputs play a fundamental role in the current and future condition of our waterways. A continued focus of action in the catchments, through the CMP, will be fundamental to the success of the plan and future health of the estuary. The Tuggerah Lakes CMP will include the whole catchment, with a sub-chapter specific to the mapped coastal zone to be submitted for certification. |
| <b>Water quality and ecological</b> | Expand existing community education and engagement program – including web-based conceptual models, regular communications via social media etc, a daily water quality report through wide reaching media such as radio and television, community citizen science, community wrack collection. | Yes         | Underway | Incorporated into Tuggerah Lakes Estuary Education and Communication project  |
|                                     | Where possible, redirect stormwater into the rivers and creeks to alleviate nearshore eutrophication (poor water quality).   | Provisional | Planned  | Viability assessment included in Stage 2 catchment and receiving waters model project   |
|                                     | Implement a strategic wrack harvesting program based on DPIE plan (2013). This may include an upgrade of machinery and modification of collection methods.   | Yes         | Planned  | Development of a Wrack Management Strategy is included in Stage 3. Funding has been secured via a NSW State Government Coasts & Estuaries grant. Development of the strategy will include extensive community engagement.   |

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| <b>Water quality and ecological</b> | Continue <u>rehabilitation and restoration of wetland habitats</u> that discharge to Tuggerah Lakes.                                      | Yes | Ongoing  | <p>In 2020, Council reported that 30ha of coastal saltmarsh and 374ha of wetland habitat had been restored in the Tuggerah Lakes catchment since 2008. Since this report was published:</p> <ul style="list-style-type: none"> <li>- A <b>further 16.1ha of coastal saltmarsh</b> has been protected and restored using a range of actions including installation of no-mow markers to define the saltmarsh edge, wrack mulching and jute matting to suppress weed regrowth and bush regeneration to enhance the growth of native species. Many environmental volunteer groups also proudly restore coastal saltmarsh on the foreshores of Tuggerah Lakes.</li> <li>- A <b>further 273.9ha of wetland</b> habitat has been protected and restored, mainly using bush regeneration techniques to improve wetland resilience, reduce weeds and enhance native flora and fauna biodiversity. These areas act like the kidneys of the lakes and help to filter out nutrient and sediment pollution flowing from the catchments so it is vitally important to protect them.</li> </ul> |
|                                     | Continue <u>monitoring and adaptively managing</u> the estuary to ensure the effectiveness of actions and adjust/improve where necessary. | Yes | Underway | <p>The Central Coast Waterways Report Card is published annually by Central Coast Council and provides an overview of water quality results and trends for the preceding year. 2021 marked the 10<sup>th</sup> anniversary of the program in Tuggerah Lakes and came with some promising results – <b>69% of sites have improved, 19% of sites are stable and only 12% of sites have declined.</b> Current and past report cards can be viewed on the Central Coast waterways website. Recent trends in Budgewoi Lake and Lake Munmorah have seen management response shift to focus more closely on these areas. Additional monitoring of groundwater, sediment condition, stormwater device performance, saltmarsh and wetland resilience and freshwater stream health is also underway to inform future management decisions. Additional variables to be considered through CMP development.</p>   |

**The following recommendations are to be led by the NSW State Government**

| TLEP - Theme            | TLEP - Recommended Action   | Council Support? | Status Jan 2022 | Progress update - Jan 2022 |
|-------------------------|---|------------------|-----------------|----------------------------|
| <b>Overarching</b>      | Have the Taskforce undertake an <u>independent audit of water sensitive urban design practices</u> , including erosion and sediment control practices, within Central Coast Council.  | Yes              | Planned         |                            |
|                         | Establish a <u>Catchment Coordinator Taskforce</u> for a 5-year period, with review after 3 years to bring together the various State and Local Government authorities who play a critical role in catchment, waterway, fisheries, environmental, transport, and planning for the region. | Provisional      | No progress     | State Government lead      |
|                         | Ensure a fully integrated Council, supported by funding and resources from the State and Commonwealth governments, with a focus on total catchment management.  | Yes              | Planned         | State Government lead      |
| <b>Opportunities</b>    | <u>Review the uptake and effectiveness of rural Best Management Practices through continued partnership with Local Land Services.</u>   | Yes              | No progress     | State Government lead      |
|                         | In partnership with Local Land Services and NSW Department of Primary Industries, <u>investigate the applicability of bioreactors in the catchment</u> for treating agricultural runoff.  | Yes              | No progress     | State Government lead      |
| <b>Entrance Channel</b> | Establish a collaborative community guided group to <u>examine potential management options for a second connection to the ocean at Budgewoi Lake</u> . Further guidance is provided in the report.   | Provisional*     | No progress     | State Government lead      |

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| <b>Catchment management recommendations</b> | <u>Community concerns related to heavy metal contamination from the Vale Point Ash Dam be reviewed as part of the TLCMP. Results of the State Government Enquiry into the Ash Dam may have further actions.</u>  | Yes | No progress | State Government lead  |
|   | Undertake <u>Water Sensitive Urban Design (WSUD) capacity building within Council.</u>   | Yes | No progress | State Government lead  |
|   | Improve <u>education and enforcement of Erosion &amp; Sediment Control (E&amp;SC) practices,</u> particularly at the lot scale. Consider proactive enforcement of erosion and sediment control practices, potentially through a third party (e.g. State Government). | Yes | Planned     | In planning phase.   |
|   | Invest in the <u>upgrade of the existing modelling framework to determine sustainable catchment loads for the lakes.</u> This should be undertaken as a priority, including collecting data to better calibrate and refine models.                                   | Yes | Planned     | Included in Stage 2 catchment and receiving waters model project |
|   | <u>Review creek rehabilitation plans</u> and prioritisations due to the extent of works completed and changed river conditions since studies undertaken (10+ years). Consider learnings from current program in this review.   | Yes | No progress | State Government lead  |
|   | Introduce <u>planning controls for single dwelling developments</u> to achieve water quality treatment   | Yes | No progress | State Government lead  |

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| <b>Catchment management recommendations</b> | Use the current catchment models as a basis for <u>investigating the treatment</u> performance and cost effectiveness of (i) existing treatment measures, (ii) future treatment options, including rural best management practices.          | Yes          | Planned     | Underway in part. Stormwater Device Performance Study underway as part of ERF Grant. Further assessment incorporated into Stage 2 catchment and receiving waters modelling project.   |
|   | Continue the significant work that Council has been undertaking in collaboration with Local Land Services to help <u>educate the community</u> .   | Yes          | Ongoing     | Via ERF grant Tuggerah Lakes Estuary Education and Communication program  |
| <b>Water quality and ecological</b>         | Undertake <u>large-scale re-engineering of shorelines</u> where this work has not already been completed by Central Coast Council to improve connectivity and nearshore water quality.   | Provisional* | No progress | Stage 5 Plan  |
|   | Undertake <u>further studies to quantify the importance of groundwater</u> nutrient inputs to the nearshore zone. If groundwater is found to be important, strategies such as the use of bioreactors should be investigated for feasibility. | Yes          | Underway    | Extensive research project underway at Berkeley Vale - study report due May 2022. Includes catchment, groundwater, nearshore and offshore event based sampling, hydrodynamic model (calibrated by drogues), bathymetric survey etc and will provide useful information to apply elsewhere where similar issues present. |