



# Our Waterway Health

2020/21



# Our Waterways

The Nepean River and South Creek are two iconic waterways that support wildlife, recreation, green spaces, urban areas and the economy in Camden. Both waterways and their catchments drain to the Hawkesbury River, over 40 kilometres away.

The transformation of rural land into urban areas with hard surfaces (roofs, footpaths, driveways and roads) means less rainwater is absorbed into the ground. During rain events, the increased volume of fast-moving urban runoff (stormwater) collects pollutants and carries these into stormwater drains and eventually our local waterways.

Our creeks and rivers are under stress due to pollutants (litter, fertilisers, and sediment), sewer overflows, introduced species, and increased flows.

As stormwater is collected separately to sewage and not usually treated before entering waterways, it is important to keep these pollutants out of our stormwater drains.



Council acknowledges the Dharawal people as the traditional custodians of this land and pay our respects to their Elders past, present and emerging.





## Projects in the flow

Council is committed to protecting our natural environment by improving the health of our waterways. We are working towards this through a variety of on-ground projects, data collection and education.

### Floating wetlands

Through the Australian Government's Communities Environment Program, Council installed a floating wetland raft in the Harrington Park Wetlands to help remove nutrients, sediment, heavy metals and some hydrocarbons from stormwater. The floating wetland raft is planted with native wetland plants that also provide habitat to aquatic wildlife. The floating wetland raft can be visited at the end of Dillon Court, Harrington Park.



At installation (August 2020)



A year on (November 2021)

Council's '[Caring for the Nepean River: A guide for the Camden community](#)' summarises the management actions for Council, as well as important information about the environmental value of bushland on private property and the actions that the community can also take to protect the health of the River.



## Asset management

In the Camden Local Government Area (LGA), there are 55 detention basins and over 406 water quality devices, like gross pollutant traps, which function to maintain and improve the quality of stormwater entering our waterways. More than 280 of these assets are specifically designed to remove litter from our waterways.



## Erosion and sediment control

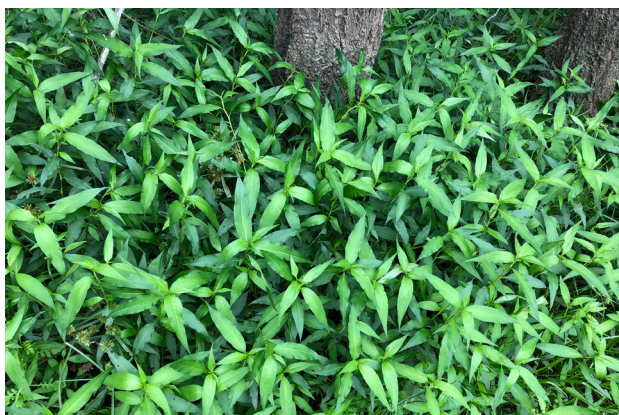
Erosion and sediment controls are essential measures that prevent sediment and debris from entering streets, drains and our local waterways.

During 2020/21, Council undertook 632 inspections of building sites and issued 360 formal warnings and penalty infringement notices. Council undertakes proactive inspections to ensure our waterways are safe from sediments and litter.



## Aquatic weed control

Aquatic weeds have the ability to cover waterbodies, suffocate native vegetation and negatively impact water quality. Council manages aquatic weeds, including Alligator Weed and Frogbit, throughout the local government area and also works with neighbouring councils to protect the Nepean River.



## Blue-green algae monitoring

Council regularly monitors the Nepean River and urban lakes for toxic blue-green algae which can be damaging to humans, domestic animals and livestock that come in contact with water. When required, Council undertakes notification of dangerous blooms of blue-green algae through warning signs, letters and website updates. You can check current alerts at any time by visiting the Council [website](#).





## Waterway management & Bushcare

Council staff spend more than 2,400 hours each year maintaining local creeks and waterways by undertaking weeding, planting of riparian corridors and litter removal.

Bushcare is a great way for the local community to work with Council to make a difference to the local environment. With seven Bushcare groups working in the Camden LGA, it's easy to get involved. Contact Council for [more information](#).

Council has removed over 6 hectares of woody weeds, planted over 44,000 trees, shrubs and grasses, and 400 Nationally Threatened Camden White Gum trees through Nepean River projects from 2015 to 2020. This was achieved with the help of almost 800 volunteers!



## Platypus monitoring

In February 2021, Council undertook its first environmental DNA (eDNA) sampling and detected the presence of platypus in the northern sections of the Nepean River, downstream of the suburb of Camden. The presence of this population was confirmed again in September 2021.

Camden's river systems are home to several iconic species including the Camden White Gum and platypus.

## Waterway Walks




The Waterway Walks at Kolombo Creek, Oran Park and Narellan Creek, Harrington Park take you on a tour of the natural and constructed features that help keep the creeks clean and healthy. Find the downloadable brochures on Council's [website](#) and enjoy the walking adventures at any time.



Do you own a residential or business property in Camden? If so, you probably contribute to the Stormwater Levy that helps fund some of these projects that better our waterways.



## LEGEND

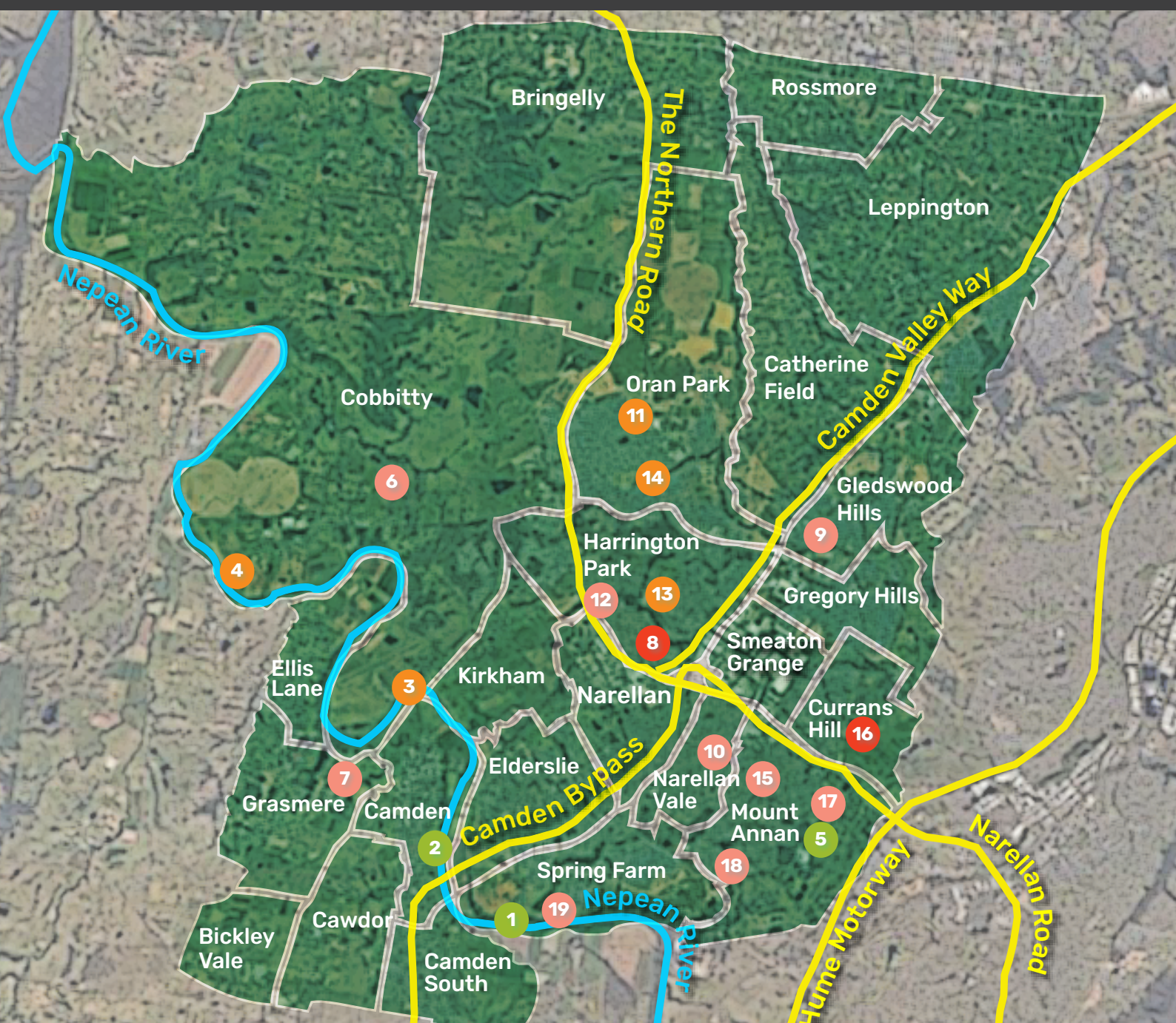
-  Waterway
-  Major road
-  Monitoring site

Council generally advises against contact with water from our waterways due to water quality variability from the surrounding urban environment. If you do intend to interact with our waterways, avoid contact with the water during and for three days after a rainfall event, check for pollution and other safety issues, and keep up to date on the latest [blue-green algae alerts](#).

## What does an A (excellent) grade waterway look like?

A waterway in excellent condition is within water quality guidelines almost all the time, has a rich and dense native vegetated riparian corridor and hosts pollution sensitive water bugs. Often these waterways are not impacted by stormwater, modified land use or urban development and are found in pristine environments, like national parks.

With 50% of our creeks and rivers in good to fair health, it is important to protect our waterways by limiting our impact on stormwater quality.



Council's Water Quality Monitoring Program covers 19 sites across the local government area. This includes four Nepean River sites, five creeks in different sub-catchments, and ten lakes in urban areas. Council also has five automatic water quality sensors in the upper South Creek catchment which were installed through the Western Parkland City Sensor project. Data collected from these sensors can be viewed on the [Camden Data Portal](#).



RIVER	1. Nepean River (Spring Farm)	2. Nepean River (Belgenny Reserve)	3. Nepean River (Macquarie Grove)	4. Nepean River (Cobbitty)	
	<div><div>B</div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div>B A</div></div>	<div><div>B</div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div>B C</div></div>	<div><div>C</div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div>B C</div></div>	<div><div>C</div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div>C B</div></div>	
CREEK	5. Annan Creek	6. Cobbitty Creek	7. Matahil Creek	8. Narellan Creek	9. South Creek
	<div><div>B</div><div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div></div><div>B C A</div></div>	<div><div>D</div><div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div></div><div>E C D</div></div>	<div><div>D</div><div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div></div><div>D D C</div></div>	<div><div>E</div><div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div></div><div>D D F</div></div>	<div><div>D</div><div><div><div></div><div></div></div><div><div></div><div></div></div><div><div></div><div></div></div></div><div>D D E</div></div>
LAKE	10. The Cascades	11. Grand Prix Lake	12. Harrington Park Lake	13. Harrington Park Wetlands	14. Kolombo Lake
	<div><div>D</div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div>D E</div></div>	<div><div>C</div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div>B E</div></div>	<div><div>D</div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div>C D</div></div>	<div><div>C</div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div>C C</div></div>	<div><div>C</div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div>B E</div></div>
	15. Lake Annan	16. Lake Currans	17. Lake Nadungamba	18. Lake Yandel'ora	19. Spring Lake
	<div><div>D</div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div>D E</div></div>	<div><div>F</div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div>E F</div></div>	<div><div>D</div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div>C D</div></div>	<div><div>D</div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div>C E</div></div>	<div><div>D</div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div>C E</div></div>

# Waterway health grades

The waterway health grades are an average of these parameters:

## Water quality

This grading is based on the physical, chemical and microbiological characteristics of the water in our waterways such as nutrients, pH, salinity, turbidity, dissolved oxygen and bacteria.

## Riparian health

A healthy riparian area is important to waterway health as it provides shade and bank stability, as well as habitat for land and aquatic animals. The riparian health grading is a measure of the level of disturbance and the habitat potential of the riparian area.

## Water bugs

Water bugs (or aquatic macroinvertebrates) are the small creatures that live in our waterways. The amount and type of water bugs can tell us how healthy a waterway is. This is only measured at the creek sites.

<b>A</b>	Excellent	A waterway in excellent condition has water quality parameters within guidelines almost all of the time. The riparian area is rich and dense in native vegetation and pollution sensitive water bugs are present.
<b>B</b>	Good	A waterway in good condition has water quality parameters within guidelines most of the time. The riparian area has native vegetation with scattered weed growth and some pollution sensitive water bugs are absent.
<b>C</b>	Fair	A waterway in fair condition has water quality parameters within guidelines some of the time. The riparian area lacks native vegetation and likely has weeds and turfed areas. The water bugs present are pollution tolerant.
<b>D</b>	Poor	A waterway in poor condition has water quality parameters within guidelines half of the time. The riparian area lacks native vegetation, likely has weeds and turfed areas and is close to urban areas. The water bugs lack diversity and are pollution tolerant.
<b>E, F</b>	Degraded	A waterway in a degraded condition has water quality parameters outside guidelines most of the time. The riparian area is heavily degraded with weed species, turf and urban areas and the limited water bugs are pollution tolerant.



# Projects in the creekline

Council is actively working to improve our waterways and associated stormwater drainage systems. These progressing projects will deliver more on-ground projects, data collection and education.

## Gross Pollutant Trap (GPT) auditing

Camden has over 280 assets specifically designed to remove litter from our waterways. We are auditing these gross pollutant traps to better understand them, determine how much litter they stop from washing downstream, and what improvements we can make to get the best out of them.

These audits are expected to be completed in 2023.



## Nepean River, Our River

Council is working to develop the 'Nepean River, Our River' video series in partnership with Penrith City Council and Hooked on Nature.

This video series will explore the history and use of the Nepean River, what both Councils are doing to improve water quality and how you too can help limit your impact on our waterways. The videos will be available in 2022.

## Narellan Creek improvement at Eskdale Reserve

Narellan Creek at Eskdale Reserve, Mount Annan has been identified for improvement works to address the issue of litter and sediment in local waterways. Works will include solar pathway lighting, removal of weeds, rubbish and sediment, realignment of the creek channel, and added vegetation to promote improved water quality and shading.

Construction is expected to be completed in March 2022.







Camden has 26 kilometres of open drainage channels and over 720 kilometres of stormwater pipes that drain into the South Creek and Nepean River catchments. That's basically the distance from Sydney to Melbourne!

## Water Sensitive Urban Design (WSUD) Operational Guidelines

To better understand stormwater treatment measures and provide clarity for Council and the community on how these should be maintained, Council is developing Water Sensitive Urban Design (WSUD) Operational Guidelines.

This document will identify the twelve main types of stormwater treatment assets and help our teams responsible for Council's parks, street sweeping and reserves.

If you have a rainwater tank or other stormwater asset, this document will also help guide you on how to best operate it.

## Projects in the pipeline

Some of Council's projects are in their initial stages or have already been developed and will be consistently added to.

### UPCOMING

- Camden's 'Greener Places, Healthier Waterways' document creates the vision of a healthy, connected, accessible and sustainable local green and blue grid, and will be made available in 2022.
- Access to the Nepean River is set to improve through the development of an open space project part funded by the NSW Department of Planning, Industry and Environment Public Spaces Legacy Program. The funding will include an extension to the Nepean River Shared Pathway.

Want to stay updated on Council's environmental initiatives? Subscribe to the [Sustainable Camden eNewsletter](#) on Council's website today.

### ONGOING PROJECTS

- Council's water quality monitoring program will continue to monitor the health of Camden's waterways. The five water quality sensors on South Creek will continue to add data to our long-term monitoring of the impact of development.
- Blue-green algae monitoring occurs over the warmer months of the year. Alerts are regularly updated on Council's website.
- Workshops on sustainability will be held each year, such as how to be waterwise and get the most out of your rainwater tank. Keep an eye out for more workshops coming soon!
- Want more Waterway Walks? Another Waterway Walk is planned for Mount Annan and will be ready to explore in 2022.



# World Rivers Day 2021

To celebrate our waterways and World Rivers Day 2021, we asked you to submit a photo, experience or story that recognises and cherishes your local waterway. These are only some of the over 120 photos and words of appreciation submitted.



"You can find lots of water treasures in Camden. This one is located in Currans Hill."

Nicole F



"With the lockdown restrictions I've been able to enjoy more walks around the lake. Taking in all the new offspring. Love watching these little ones grow."

Glenn A



"I can't thank Camden Council enough for the beautiful walking paths they have created around the lakes and waterways, in our LGA."

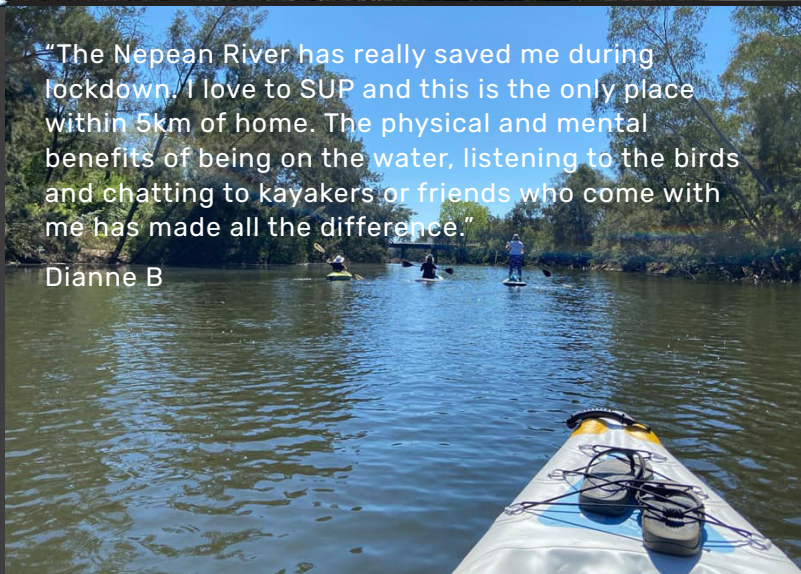
Since lockdown I have walked almost every day around the lake just off Mount Annan Drive. The absolute joy it brings me each day to see the wide range of wildlife, from birds, ducks, beautiful swan family, turtles, fish and eels all in the one little eco system. Then the joy to see so many children, Mums and Dads pushing prams, the elderly, all enjoying walking, riding and jogging around this beautiful lake."

Gwen R



"Afternoon walk with a bunch of friends and took a quick snap of how amazing Burrell Road Riverside Park, Spring Farm... So beautiful Blessed to live here"

Kelly G



"The Nepean River has really saved me during lockdown. I love to SUP and this is the only place within 5km of home. The physical and mental benefits of being on the water, listening to the birds and chatting to kayakers or friends who come with me has made all the difference."
















Dianne B





# BE THE SOLUTION TO STORMWATER POLLUTION

We can all help improve local water quality by making small changes in our everyday lives that protect our beautiful waterways. Take the Be the Solution to Stormwater Pollution pledge and commit to five changes that make a positive impact on stormwater quality.

Garden	Home	Neighbourhood
<ul style="list-style-type: none"> <li> Sweep up leaves and grass clippings and place in the green bin or compost;</li> <li> Limit fertiliser and pesticide use;</li> <li> Wash your car on the lawn or at a designated car wash station;</li> <li> Keep your soil, sediment and mulch on site;</li> <li> Plant native plants and retain trees and other vegetation; and</li> <li> Minimise the amount of hard surfaces such as pavers and concrete.</li> </ul>	<ul style="list-style-type: none"> <li> Refuse and reduce single use items;</li> <li> Put rubbish in the bin;</li> <li> Safely dispose of household chemicals; and</li> <li> Install a rainwater tank.</li> </ul>	<ul style="list-style-type: none"> <li> Report illegal dumping and building sites without sediment controls to Council;</li> <li> Don't be a tosser and put rubbish in the bin;</li> <li> Be a responsible pet owner and pick up after your dog;</li> <li> Carefully dispose of fishing lines and hooks; and</li> <li> Don't feed the wildlife.</li> </ul>

## WILL YOU BE PART OF THE SOLUTION?

To take the Pledge, scan the QR code or go to [camden.nsw.gov.au](https://camden.nsw.gov.au) and search '[Be the Solution to Stormwater Pollution](#)'.



