



CREATING RESILIENT RIVERS FOR RESILIENT PLATYPUS

Platypus (*Ornithorhynchus anatinus*) are unique and iconic Australian animals that rely on healthy waterways to survive. Platypus are found throughout freshwater in the Hawkesbury-Nepean catchment.

FIVE FEATURES THAT MAKE A HEALTHY PLATYPUS HABITAT

Platypus habitat, including the waterway (such as a river or creek) and the riparian zone (the area between a body of water and adjacent land), is critical for providing shelter, food and movement pathways. When assessing ideal platypus habitat (as illustrated below), we look for five key features:

1. TALL TREES OVER 5 METRES

Tall trees help stabilise banks, making them safe for platypus burrows. Their roots support habitat, and their shade cools the water, which is especially important in urbanised areas.

2. WIDE AND COMPLEX VEGETATION

A healthy riparian zone includes a mix of native grasses, shrubs, and trees of varying heights. It should be at least 3-10 metres wide from the waterway edge and fenced off to support biodiversity and protect water quality.

3. OVERHANGING VEGETATION

Vegetation along the waterway's edge provides habitat and creates safe places for platypus burrows and to forage for

food, hidden from predators like foxes and cats. Overhanging vegetation also creates habitat for water bugs.

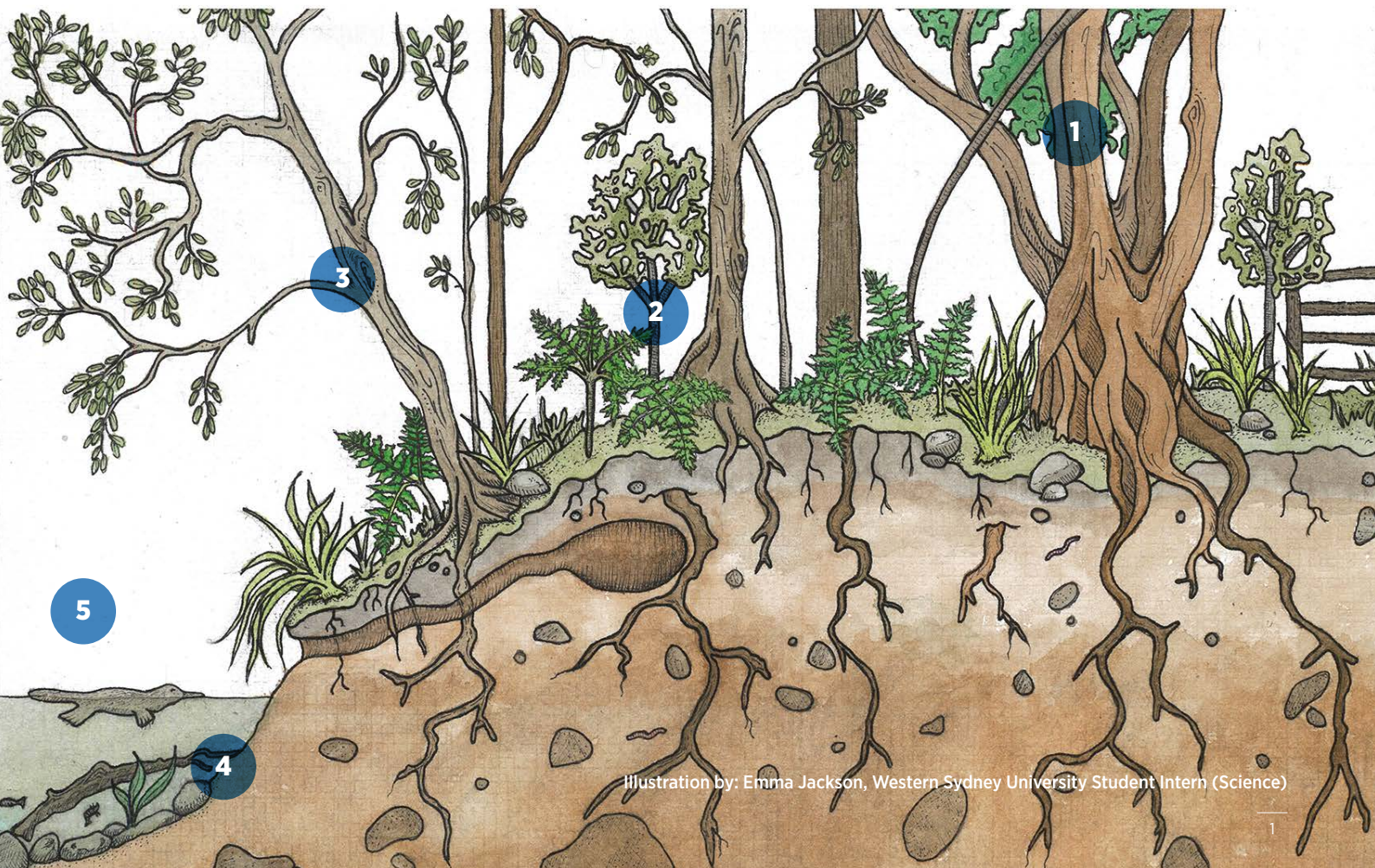
4. ORGANIC MATTER AND DEBRIS

Leaf litter, sticks, branches, submerged logs and cobbles in the waterway (on the bottom of the river or creek bed) create ideal habitat for water bugs to live and platypus to forage for food.

5. HEALTHY, INTERCONNECTED WATERWAYS WITH LOW SEDIMENT

Platypus need clean, flowing water with deep pools. Managing erosion, sediment, and pollution from washing into the waterway helps keep waterways clear and suitable for platypus.

* based on recent research undertaken by Western Sydney University.



ASSESSING PLATYPUS HABITAT ON YOUR PROPERTY

This rapid platypus habitat self-assessment tool helps private property owners identify key features of their waterway and understand how well it supports platypus. It takes about 15 minutes to complete.

A note on scoring and habitat conditions: It's important to remember that having a perfect or pristine riparian zone isn't always realistic. Many properties will most likely have a mix of good and not-so-good riparian conditions. This tool is designed to help you quickly understand what's working well and where there is room to improve. This assessment can be repeated annually to track improvement over time. Please keep in mind your score may also vary depending on the season, recent rainfall, or drought conditions, as these natural factors affect waterway health. You should repeat your assessment at the same time of year, and make note of these seasonal conditions.

HOW TO USE THIS SELF-ASSESSMENT TOOL

1. Choose a sampling site on your property that best represents your riparian zone (a typical section of your waterway frontage).
2. Circle the score (from 1 = Very Poor to 5 = Excellent) that best describes each of the listed habitat features.
3. Add your scores together to calculate and record your final habitat score.
4. Use your result to understand your habitat condition and identify actions to improve it.

Before you begin, explore the examples on the back page. Your final habitat score is subjective and should be used as a general guide only. For a more detailed assessment, you can participate in a full property assessment through [Land for Wildlife](#).

RIPARIAN CONDITION					
HABITAT FEATURE	Very Poor	Poor	Fair	Good	Excellent
Width of riparian zone	No riparian zone, or grass cover only to the waterway edge.	Riparian zone is less than 3 metres wide.	N/A	Riparian zone is between 3–10 metres wide.	Riparian zone is greater than 10 metres wide.
SCORE	1	2	-	3	4
Bank vegetation and complexity (layers of plants)	Little or no vegetation complexity, with mostly grass cover and none or very few tall trees.	Minimum vegetation cover, mostly invasive weeds, with none or very few tall trees	A mix of native and invasive vegetation with medium ground coverage, shrubs and tall trees.	Majority native vegetation and tall trees, with medium ground cover and medium density shrub layer.	Native vegetation, with lots of variety, tall trees and good ground cover and dense shrub layer.
SCORE	1	2	3	4	5
Tall trees (greater than 5 metres in height) in the riparian zone	No tall trees.	Less than 5 tall trees.	Between 5 and 10 tall trees.	Between 10 and 50 tall trees.	50 or more tall trees.
SCORE	1	2	3	4	5
Bank erosion	Extensive erosion with unstable, loose and/or bare banks present.	Widespread erosion, with large sections having bare banks with little vegetation.	Noticeable erosion in large sections, but some areas have good vegetation cover.	Minor erosion in small sections, with areas of good vegetation cover.	No erosion visible, with bank intact and well-vegetated.
SCORE	1	2	3	4	5
Overhanging vegetation, including logs (greater than 10 cm wide and 50 cm long)	No fallen logs, branches, or vegetation in or over the water.	Very few fallen logs or branches, with only a small amount of vegetation in or hanging over the water.	More than three fallen logs or branches, and up to 25% of the bank has vegetation in or hanging over the water.	More than three fallen logs, branches, or tree stumps, and up to 50% of the bank has vegetation hanging over the water.	More than five logs, along with multiple branches or tree stumps, and more than 50% of the bank has vegetation hanging over the water.
SCORE	1	2	3	4	5

RAPID SELF-ASSESSMENT TOOL (CONTINUED)

WATER CONDITION					
HABITAT FEATURE	Very Poor	Poor	Fair	Good	Excellent
Depth of waterway, including pools (deep waterholes) and riffles (shallow, fast-moving sections)	No water present in the waterway.	The water is less than 30 centimetres deep.	The water is between 30 centimetres and 1 metre deep.	The water is greater than 1 metre deep in some areas and shallow with riffles in others.	The water has a range of depths, including pools deeper than 1 metre and shallow areas with riffles.
SCORE	1	2	3	4	5
Substrate of the waterway bed (bottom of the creek or river)	Only one type of substrate, that is either loose sediment, silt or sand.	A mix of substrates, mostly sand, sediment or silt, with very little rocks or organic matter present.	Mostly rocks with some sand, silt or sediment. Some woody debris or organic matter present.	Various-sized rocks and cobbles, with some woody debris or organic matter (e.g. leaf litter, snags or submerged logs).	Various-sized rocks and cobbles, with lots of woody debris and organic matter (e.g. leaf litter, snags and submerged logs).
SCORE	1	2	3	4	5
Visibility in water (turbidity)	The water is completely brown or muddy and you cannot see the bottom.	The water is brown and opaque and it is very difficult to see through to the bottom.	The water is slightly cloudy and the bottom is hard to see.	The water is mostly clear but the bottom is not clearly visible.	The water is completely clear and the bottom is easy to see.
SCORE	1	2	3	4	5

PLATYPUS EVIDENCE					
HABITAT FEATURE	Absent	Present	HABITAT FEATURE	Absent	Present
Presence of platypus	No platypus sighted in the last 2 years. No evidence of holes or tunnels in the bank that could be used as burrows.	Platypus sighted in the last 2 years, and/or round or oval burrow openings (10–15 cm wide) in the bank.	Presence of water bugs (macroinvertebrates)	No movement of water bugs in the water or on the surface, and no presence under rocks or debris.	Movement of water bugs in the water, on the surface, and/or presence under rocks and debris.
SCORE	0	1	SCORE	0	1

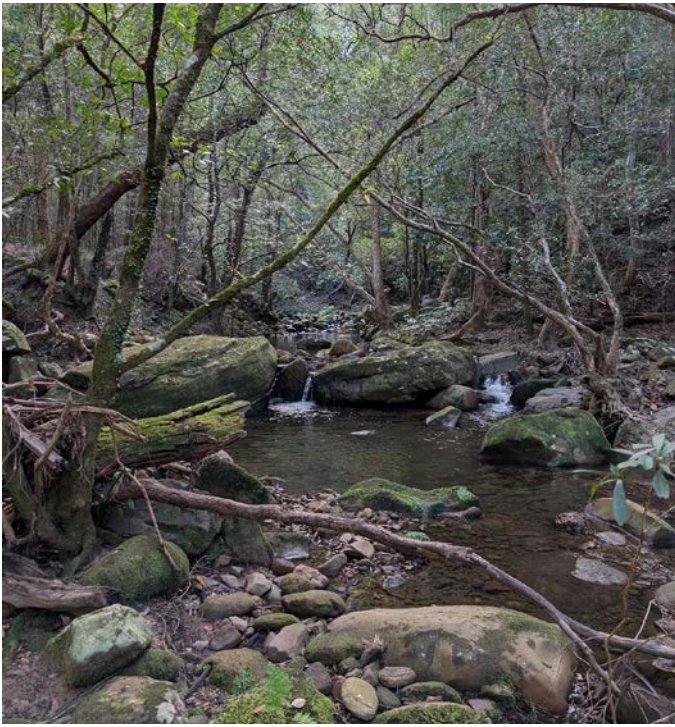
YOUR FINAL HABITAT SCORE:

UNDERSTANDING YOUR FINAL HABITAT SCORE

Your total score shows the health of your waterway and riparian zone, and how likely it is to support platypus. Healthy riparian zones improve water quality and provide essential habitat features for platypus, including places to burrow, forage for food, and move along the waterway. By connecting and caring for these environments across the catchment, we can support resilient urban platypus populations and reduce risks like predation, pressures from fire and drought, and habitat loss. *Your score is a guide only and may vary depending on seasonal conditions such as rainfall or drought.*

FINAL SCORE	8 - 19	20 - 30	31 - 41
HABITAT CONDITION	Degraded	Fair	Excellent
<i>What does this mean for your property?</i>	This is very poor platypus habitat. Significant improvements are needed. Focus on stabilising banks, increasing native vegetation and complexity, and improving water quality.	This is moderate platypus habitat. Some important features are present, but there is room to improve. Strengthening vegetation cover and reducing erosion can enhance habitat.	Well done! This is strong platypus habitat. Continue to maintain and protect these conditions to support long-term waterway health and thriving platypus populations.

WHAT TO LOOK FOR: SPOTTING SIGNS OF PLATYPUS HABITAT



EXAMPLE 1: FAVOURABLE HABITAT CONDITION

This riparian zone has many ideal features for platypus, including deep pools and riffles, large trees providing shade and structure, clear water, and a diverse substrate. These elements support feeding, movement, and shelter. However, the absence of a complex midstorey vegetation layer means there's still room to improve habitat diversity and resilience.



EXAMPLE 2: DEGRADED HABITAT CONDITION

This riparian zone shows signs of erosion, with a grassy bank and only a small amount of native shrubs and grasses. While there are some submerged logs that could provide foraging areas for platypus, the overall habitat lacks complexity and stability. Improving vegetation cover and bank structure would help restore this area and support platypus habitat.



EXAMPLE 3: FAIR HABITAT CONDITION

This riparian zone shows some good features, including tall trees and a complex midstorey that provide shade and structure. However, areas of bare bank, minor erosion, and signs of sedimentation suggest poor water quality. These issues can impact platypus habitat and need attention for improvement.



EXAMPLE 4: SPOTTING A PLATYPUS BURROW

Platypus burrows are typically located in the sides of banks of creeks or rivers, and are often hidden among vegetation or tree roots (like in the image above). They usually appear as small, oval-shaped openings above the waterline.

It is important to stay well away from burrow entrances to avoid disturbing the animal and its habitat. If you think it is a burrow, observations can be made quietly at dusk from a safe vantage point, well back from the water's edge. If you spot a platypus, share your sighting with us at: platypus@westernsydney.edu.au

