RIVERBANK RESTORATION

IN THE MIDCOAST COUNCIL AREA

Across the MidCoast, riverbanks are eroding due to the effects of boat wake, wind waves, stock grazing and floods. An innovative technique has been developed locally to prevent erosion and restore habitat, using trees that have fallen or have been cut down that would otherwise be burnt, chipped, etc. These logs are bundled up and placed along the toe of the riverbank where there is a shallow intertidal bench.

Logs 150-200mm in diameter and approximately 2-4 metres long are used for posts, and horizontal logs 350-600mm in diameter and up to 7 metres long are laid on top of each other to reach the required height for bank protection. The vertical posts are driven into the substrate and the horizontal logs are then secured to the posts and are referred to as timber fillets or large woody materials.

Timber fillets reduce wave and wind energy reaching the riverbank, creating an area suitable for young mangroves to establish, grow and eventually stabilise the sediment deposited on the intertidal bench. Mangrove seeds that have been caught in oyster gear and would otherwise die are being collected and propagated in Council's nursery for later planting where mangroves have not established naturally.

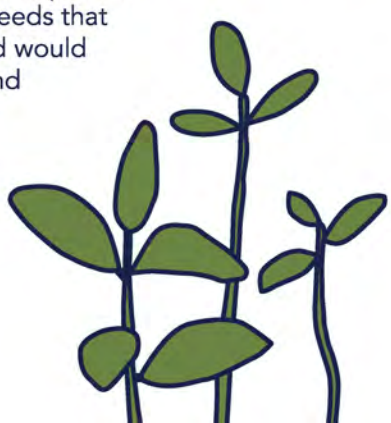

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Figure 1 Oyster punt loaded up and heading to Gereeba Island, Wallamba River [**Photo** Wade Lancett].

Figure 2 River mangrove seedling growing amongst oysters behind timber fillet, Wallamba River [**Photo** Brian Hughes].

Figure 3 Ready to start loading from the truck to the oyster punt [**Photo** Chloe Baker].

HEALTHY RIVERBANKS ARE GOOD FOR FISH

Oyster reefs can improve water quality, dissipate wave energy and stabilise foreshores. Discarded oysters from the production cycle (both live and dead) are reused and are placed behind the timber fillets. The survival of live oysters is being monitored, and studies have shown that the presence of oyster reefs and mangroves forests contribute to the abundance and diversity of fish species by providing nurseries and refuge from predators.

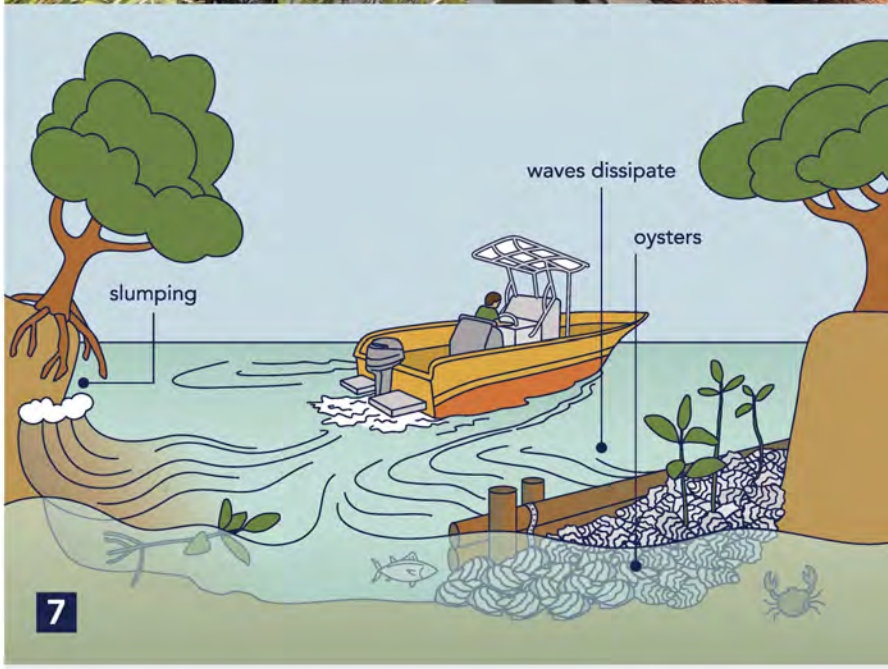

Figure 4 Oyster shell behind timber fillet, Wallamba River, April 2022. Note the sediment deposits [**Photo** Brian Hughes].

Figure 5 Sediment accumulating behind the fillet while the adjacent bank continues to erode, Wallamba River, April 2022 [**Photo** Brian Hughes].

Figure 6 Horizontal log being craned into position [**Photo** Wade Lancett].

Figure 7 The foreshore stabilisation technique involving coir logs and both live and dead oyster shell [**Illustration** Kathryn James].

This fact sheet was produced as part of the Climate Ready Aquaculture project with funding from the Australian Government's National Landcare Program.

WANT TO GET INVOLVED? WE NEED YOUR HELP!

We're keen to work with anyone with fallen trees they'd like to put to a good use restoring riverbanks and creating fish habitat. Whether you're a landholder, treelopper, truck driver, forestry operator or work for government, we need everyone to help us continue this work and scale it up.

For more information, or to register your interest in getting involved, please contact Brian Hughes at Hunter Local Land Services on **0428 293 021** or **brian.hughes@lls.nsw.gov.au**

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