



In this issue...

The Lower Shoalhaven River Drainage Remediation Action Plan and other activities on the floodplain.



GUMBOOT NEWS

Shoalhaven
City Council

Welcome to the first edition of the Gumboot News!

What is the Gumboot News?

A newsletter for those who live and work, in and around, the Shoalhaven River Floodplain.

It's all about acid sulfate soils (ASS) and improving water quality, soil quality, agricultural production and the health of the wetlands and estuary.

The main news is that the Lower Shoalhaven River Drainage Remediation Action Plan, which we'll call The RAP (Remediation Action Plan), is now complete in draft form.

What is The RAP?

The RAP provides clear direction for remediating the floodplain drainage system and manage ASS.

It includes a history of agricultural drainage, a detailed explanation of ASS and the various remediation options, a priority list of drains for remediation - each with an action plan and maps and diagrams to help explain the technical detail.

During preparation of The RAP, Council sent two letters to floodplain landowners. The second letter included a survey form seeking information from landowners about their level of knowledge regarding ASS and their willingness to adopt various remediation strategies. The results of the survey are in The RAP.

Council will continue engaging with the community about The RAP and its implementation. This will include talking with landholders about the development of detailed designs for each sub catchment.

The RAP is currently being reviewed. Once it's finalised and adopted by Council, The RAP will be posted on Council's website. Further issues of Gumboot News will summarise the contents and advertise engagement activities.

How will The RAP be implemented?

With annual maintenance budgets and grants. In mid March 2014, Council submitted a grant application to the NSW Government to develop two demonstration sites and run training sessions and workshops for landowners. Successful applicants will be notified in July.

The RAP will now guide the spending of annual maintenance budgets and staff will continue to seek grant funding.

Why do we need The RAP?

To manage the impacts of ASS which have been identified as a significant contributor to poor water quality in the Shoalhaven River Estuary.

The impacts of ASS include:

- Reduced water quality
- Habitat degradation
- Acid scalds on the land surface – stunted, dead or no vegetation leading to reduced grazing area
- Reduced ability of fish to migrate, loss of spawning sites and recruitment failure in both estuarine and freshwater species
- Deoxygenated water leading to fish kills and outbreaks of fish disease
- High aluminium and iron concentrations associated with ASS restrict plant growth, promote acid-tolerant, species and reduce grazing areas
- Damage to man-made structures - iron precipitates can clog pipes and drains, sulphuric acid corrodes concrete and steel
- Smell of rotten egg gas (hydrogen sulphide).



As part of the development of The RAP, staff from WRL collected soil samples around Broughton Creek in late 2013. A total of 14 boreholes were dug to about 2.5m deep.

Shoalhaven City Council formed a working group to help guide the development of The Rap with expertise provided by NSW Fisheries and Agriculture, the Catchment Management Authority (now Local Land Services), Council staff and community representatives.

The draft RAP has been prepared by Dr Will Glamore and Duncan Rayner from the Water Research Laboratory (WRL), University of NSW.

When did we first become aware of the impacts of ASS on the floodplain?

Acid drainage problems were first identified in Broughton Creek in August 1991. Following drought breaking rain, an 8 km stretch of the creek turned clear in a 'black water' event and fish and prawns disappeared. A similar scenario occurred in February 1992, also following heavy rain.

These events triggered ongoing research projects, many of which involved Dr Glamore and WRL. The accumulated knowledge from these research projects forms the basis of Dr Glamore's current and ongoing investigations.

The methodology used by the WRL team to prepare The RAP included:

- Review of existing floodplain on-ground works and ASS research
- Assessing floodplain hydrology and drain acid contribution
- Conducting an analytical assessment of floodplain priorities to identify potential high impact remediation sites
- Reviewing key ecological features in the Shoalhaven estuary
- Reviewing and surveying drainage asset condition
- Assessing climate change vulnerability and,
- Consulting with stakeholders to determine their level of training and willingness to adopt suggested management strategies for ASS.



Geoff Young (Environmental Operation Officer, SCC) and Peter Harris (land owner) discussing the operation of an auto tidal gate.

A standard one way flood gate.

What else is happening on the floodplain?

Flood mitigation assets are receiving some attention.

Work is being undertaken by Council to maintain, remove and upgrade flood mitigation assets e.g.

- P6D8: removal of a redundant weir
- P3D6: addition of stock gates
- P3D6 & P6D8: gates are being opened for two or three days to allow tidal inundation
- P6D3: phragmites control - mechanical and then by tidal inundation.



Matt Apolo (Senior Floodplain Engineer, SCC) with Marcus Rogers (Turfco) and Warwick Harper discussing the Oyster Partnership Project.

Regular maintenance works will continue as The RAP is implemented.

Shoalhaven River Oyster Partnership

Southern Rivers CMA (now South East Local Land Services - LLS) works with the local oyster industry to implement their Environmental Management System and improve water quality and oyster production in the Shoalhaven River. LLS and SCC have worked with landholders on the floodplain including Warwick and Meredith Harper at Berrys Bay to:

- install stock-proof fencing along the river, creeks and drainage channels
- keep stock out of waterways
- prevent stock loss, injury and parasitic infection
- reduce erosion and contamination of nearby oyster leases
- regenerate native She-Oaks, mangroves and saltmarsh.

Additional works on the Harper's property include:

- drain filling to create a high flow grass swale and provide additional pasture
- review, and potentially upgrade, the floodgate to allow for regular tidal intrusion.

Funding has been provided by the Australian & NSW Governments and SCC.

RECYCLE YOUR SILAGE WRAP

Silage wrap can be recycled at no charge at West Nowra & Ulladulla Recycling & Waste Depots if presented in the correct plasback liners*.

* Farmers can purchase Plasback recycling liners at local CRT or Landmark stores. For more information on the program and participating stores, see www.plasback.com.au

Plasback is made possible in the Shoalhaven through the support of Shoalhaven City Council PLUS program partners Subloos and Tapex.

