

Our Ref: JL:jn/2009454/Land:Unit Management

15 February 2010

Inquiry into soil carbon sequestration in Victoria
Submission no. 27

Executive Officer
Environment and Natural Resources Committee
Parliament House
Spring Street
East Melbourne VIC 3500

Dear Ms Williams,

Mallee Catchment Management Authority (Mallee CMA) response to Environment and Natural Resources Committee Parliament of Victoria Inquiry into soil sequestration in Victoria

The Mallee CMA welcomes the opportunity to make a submission to this enquiry. The primary responsibility of the Mallee CMA is to ensure the region's natural resources are managed in an environmentally sustainable way, including private and public land, wetlands and waterways.

One third of the Mallee region is public land, with much of the balance used for primary production, predominantly dryland cropping (with a small amount of grazing) and irrigated horticulture along the Murray River region. The principal responsibilities of the Mallee CMA include managing biodiversity, soil health, pest plants and animals, waterways, floodplains, regional drainage, and salinity, as well as encouraging community involvement in natural resource management programs.

There is significant community interest in increasing carbon sequestration to align both with the private carbon industry and the proposed Federal Government carbon pollution reduction scheme.

Carbon sequestration within the Mallee environment occurs within two main areas:

1. **Bio-sequestration**, that refers to the carbon that is incorporated as part of the growth of biomass such as trees, vegetation, and pastures or crops; and



2. **Soil sequestration**, that refers to carbon that is captured in the soil profile.

Bio-sequestration

While there is great support for carbon sequestration, particularly bio-sequestration, in the Mallee community, there is currently little known about the amount of carbon local indigenous species can sequester. Significant research into quantifying the potential of Mallee indigenous species to sequester carbon is required to further advance the feasibility of bio-sequestration in this region.

There is potential to achieve multiple outcomes through bio-sequestration, by not only sequestering carbon but also increasing the area of the Mallee planted to indigenous vegetation. There can, however, also be environmental detriments if there are moves to sequester carbon through the planting of monocultures (e.g. only one species).

While planting monocultures can maximise the carbon sequestration potential of an area of land and facilitate efficient carbon accounting, there is a negative impact on the environmental values by reducing the resilience of the landscape through decreased biodiversity.

Soil Sequestration

The long term option for securing carbon in the soil profile is unknown. Land managers are increasingly furthering their understanding the benefits of improving soil health, including increasing carbon content. Agricultural research and demonstration programs within the region have long included components to improve carbon within the soil profile.

As detailed within the Victorian Government's Land and Biodiversity White Paper, irrespective of the role of soil sequestration in the Australian Government's Carbon Pollution Reduction Scheme or other carbon capture schemes, there are multiple benefits for maximising the carbon sequestered in soil, through improving the health of the soils.

Actions that increase soil carbon will also increase microbial activity, assist the uptake of nutrients, and reduce the need for nutrient inputs such as fertilisers. There is still considerable work required on the administration of how to record and report on captured carbon within the soil profile.

The majority of the soil types within the Mallee are fragile, have poor fertility, are shallow, and are prone to degradation. Although Mallee soils have relatively low soil carbon content, the potential to increase carbon content and thus improve the soil asset is significant.



A small percentage increase in the carbon within Mallee soils can have a significant impact on the soil asset. Land managers and natural resource management bodies are always looking for ways to optimise the use of low or unproductive land and manage these fragile areas in a sustainable way. The potential to coordinate this with carbon sequestration would add value to these programs.

At the present time, the inclusion of agriculture in the Federal Government's Carbon Pollution Reduction Scheme is unresolved, with a decision to be made in 2013 for possible inclusion by 2015.

If agriculture is included within this scheme, carbon sequestration in productive land could be an ideal method of offsetting some of the carbon inputs into the enterprise. However, for this to occur, large amounts of research is required in regard to the calculation of carbon sequestered in soil and through bio-sequestration.

There are also issues relating to administration of proposed carbon credits (e.g: the ownership of the carbon in bio-sequestration). Numerous community organisations, natural resource management bodies and local, State and Federal Governments fund revegetation works on private land to improve the biodiversity of the area.

The ability to add value to these programs by linking in with a carbon sequestration program would be ideal. However, this does raise other issues for consideration, including who would own the sequestered carbon. These are issues that community groups, natural resource management bodies and regional, State and Federal Government are going to need to consider.

The Mallee CMA supports any action that improves the condition of Mallee soils, including increasing the carbon content through natural sequestration.

Should you have any queries in relation to this matter, please contact the Coordinator Land and Biodiversity, Narelle Beattie, on ☎ (03) 50514377.

Yours sincerely



Linda Pratt
Acting Chief Executive Officer

