



**Hindmarsh
Shire Council**
**Administration
Centre**
P.O. Box 250
92 Nelson Street
NHILL VIC 3418
Ph: (03) 5391 1811
Fax: (03) 5391 1376

email:
info@hindmarsh.vic.gov.au

website:
www.hindmarsh.vic.gov.au

ABN 26 550 541 746

**Customer Service
Centres**

Jeparit
10 Roy Street
JEPARIT VIC 3423
Ph: (03) 5397 2070
Fax: (03) 5397 2263

Dimboola
101 Llyod Street
DIMBOOLA VIC 3414
Ph: (03) 5389 1734
Fax: (03) 5389 1734

Rainbow
Federal Street
RAINBOW VIC 3424
Ph: (03) 5395 1436
Fax: (03) 5395 1436

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Inquiry into soil carbon sequestration in Victoria

Submission no. 28

24 February 2010

Executive Officer
Environment and Natural Resources Committee
Parliament House
Spring Street
East Melbourne Vic 3002

Dear Sir/Madam,

Re: Parliamentary Enquiry into Soil Carbon Sequestration

Hindmarsh Shire Council welcomes the opportunity to make a submission to the Parliamentary Enquiry into Soil Carbon Sequestration. Hindmarsh Shire's economy is strongly based on agricultural production and animal husbandry. We rely on productive landscapes and soils to support rural industry. As a major partner in the Landcare movement in Victoria, Hindmarsh Shire is also a proud supporter of *Project Hindmarsh* which has planted over a million native plants to improve biodiversity and landscape health. We have just finalised the Hindmarsh Shire Environmental Strategy which proposes a great number of actions to save water and energy, reduce waste and improve soils.

Soils are the largest carbon reservoir on land, containing twice as much carbon as the atmosphere and three times more carbon than all the vegetation growing across the planet. As such, soil carbon is very important for farmers. It may also be very important for the broader community in mitigating the impact of climate change by reducing the proportion of carbon in the atmosphere.

Higher levels of soil carbon lead to greater productivity. Soil carbon also helps with the water efficiency. That is, more growth with less water and better water holding capacity of soils. Farmers applying principles of better soil management to improve soil carbon would have more profitable and productive farms. This is promoted to farmers by organisations such as Birchip Cropping Group (BCG). The Wimmera Regional Catchment Strategy (2003) states that large areas of the Wimmera region are experiencing decline in soil condition and health. Greater levels of soil carbon would address this issue and support the long term productivity in the agricultural sector.

Soil health is a key theme in the recently released Hindmarsh Environment Strategy. The community identified healthy soils for healthy food production as important. There is a growing community demand for healthier products for better health. Farmer participatory programs for managing soil quality and soil health is the future of sustainable management systems that are the vanguard for the future of the agricultural sector within the Shire of





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Hindmarsh and the region. Continuing programs to help farmers improve soil health should be a high priority for the state government and new programs based on soil carbon sequestration should be additional to existing soil health programs.

Carbon friendly farming in the Wimmera would include practices of minimum tillage (limited ploughing), controlled traffic (minimising compaction) and no burning of stubble. These practices would also reduce the risk of soil erosion and soil structure decline. It can be expensive for farmers to change to minimum tillage and controlled traffic production systems. Government support for change might be advantageous. Support might take the form of zero interest loans rather than cash grants. BCG fact sheets describe the advantages of this type of farming system:

- Reduced soil loss from wind and water erosion leading to increased organic matter and nutrient levels and better crop performance on soils prone to wind damage
- Better soil structure leading to improved water infiltration, improved trafficability and better crop performance on soils prone to compaction and water logging
- Moisture conservation – moisture is conserved by stubble retention and reduced cultivation and the water harvesting effect of press wheels
- More timely sowing operations – time is not lost in extra paddock preparation after the break and the need to wait until after the break to avoid wind erosion caused by dry seeding is eliminated
- Less tractor hours leading to reduced fuel costs, improvements in operational efficiency
- Potential to farm larger areas - efficiency gains enable a larger operation to be managed with the same plant and labour resource

Soil carbon sequestration would align with the White paper on Land and Biodiversity and the DSE Victorian Investment Framework for Natural Resource Management. There is a difficulty with measuring soil carbon in that it is difficult to measure across a whole paddock or property. This area needs further research and examination.

Soil carbon markets could be a source of income for farmers. However, farmers would have to balance the risk of selling their carbon sequestration in case they need to draw down their carbon levels in a poor year. That is, soil carbon would need to grow every year for an extended period of time which might be difficult. It is important that Victoria maintains equity with other states in relation to carbon credits for soil carbon. We do not want to see investment in NSW soils at a cost to Victoria due to different soil carbon regimes. The enquiry should approach the Australian Government about including soil carbon in the Carbon Pollution Reduction Scheme.

Biochar added to soil is another hot topic in relation to soil carbon sequestration. The production of Biochar also has the potential to offer a diversified source of income for farmers. Landholders can utilise farm waste, such as the chaff expelled from headers, to power cogeneration plants. These plants would create Biochar and electricity. Biochar can be utilised on



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farm to improve the carbon levels in soils and the electricity can be sold to the power grid to provide income.

One product that is needed in this area is a set of guidelines and measuring tools to help farmers manage the carbon in there agricultural systems. An outcome of the enquiry could be the establishment of a major agricultural project to address soil carbon issues. The project could:

- Determine consistent and uniform methods for assessing carbon levels in soils
- Provide guidelines and advice for the management of carbon levels, and
- Investigate the carbon sequestration potential of soils and the gains that could be made under the CPRS.

In short, soil carbon sequestration will have many benefits for farmers and the broader community. Hindmarsh Shire would recommend further exploration of the issue. Studies could include:

- Accurate sampling of soil carbon levels and quantities sequestered, and;
- Inclusion of soil carbon under any emissions trading scheme and potential benefits to landholders.

Hindmarsh Shire looks forward to the outcome of the enquiry.

Please contact me, email to dmiller@hindmarsh.vic.gov.au or phone 5391 4444, should you have any queries or require further information.

Yours sincerely,

Dean Miller
Chief Executive Officer