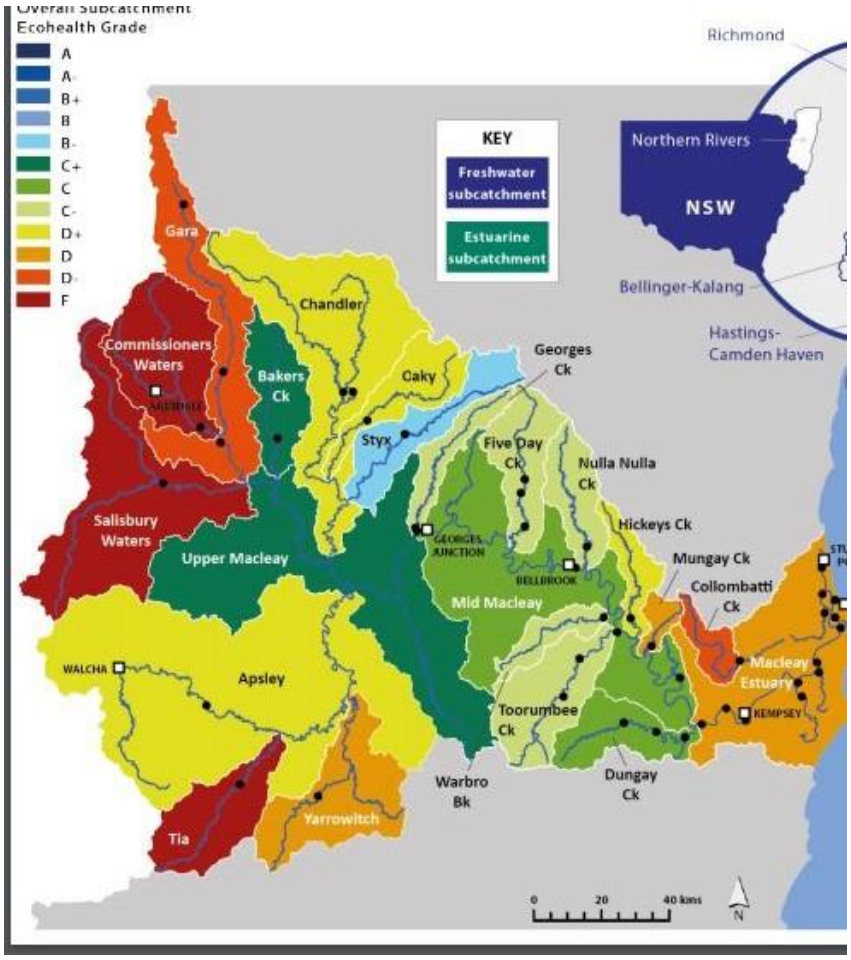
ARMIDALE REGIONAL RATEPAYERS ASSOCIATION to Draft Regional Water Strategy North Coast

Armidale Regional Ratepayers Association (ARRA) represents ratepayers and residents across the Armidale Regional Council Local Government Area. ARRA's area of concern is the headwaters of the Macleay River; members are grateful for the opportunity to attend the briefing in Armidale and to contribute to this statutory review of Water Strategy.

ARRA supports the aim of the Review 'to support the delivery of healthy, reliable and resilient water resources for liveable and prosperous regions.'

The current state of our water-ways

At the briefing mention was made of the Macleay River Ecohealth Project: Assessment of River and Estuarine Conditions 2015-2016 (here). The map below, from the Health Card developed from the Report, indicates the concerted efforts required to return the upper reaches of the river to health.



The Strategy briefing document (here) is a well-presented and accessible presentation. Of particular interest to ARRA was Section 2.1.2 (p.46) which outlined the aspects of current climate variability and future climate change factored into the Department's considerations and we particularly noted:

* Annual average rainfall may decrease by 5%
* Most dramatic decreases likely in driest months of winter
* Evapotranspiration likely to increase by 5-6% for most months
* Higher temperatures, more hot days and increases in hot spells
* Decrease in the number of frosts and cold nights

ARRA members were disconcerted at the poor attendance at the briefing in Armidale and urge consideration of ways of ensuring greater attendance e.g out-of-working hours sessions.

Of particular interest was **Water security risk for major centres and towns: (**Draft Strategy document Table 8 p. 113).

Water utility	Drinking water supply system	Population served in 2014	Water security risk (2014)	Water security risk (2040)
Armidale Regional Council	Armidale	19,818	Very low	Very high
	Guyra	1,947	High	Very high

Aboriginal Rangers and improved access for Aboriginal peoples to water
ARRA suggests the Water Strategy would be strengthened with the inclusion of Aboriginal Rangers responsible for rehabilitation of riverine landscapes.

The importance of assisting landholders to rehydrate landscapes
Rehydration of the landscape must be an integral part of any catchment strategy which is currently not broached in the Draft. Rehydrating the landscape improves the capacity of the ground surfaces and the sol beneath to absorb water from short sharp storm rains (better groundcover management and increasing soil carbon) and subsequently allows soils to release excess water gradually so assisting in control of storm and flood peaks which are expected to be exacerbated with climate change. Prolonging flows in this way will benefit ecosystems. Any increase in the amount of runoff a property may capture (currently 10%) is opposed.

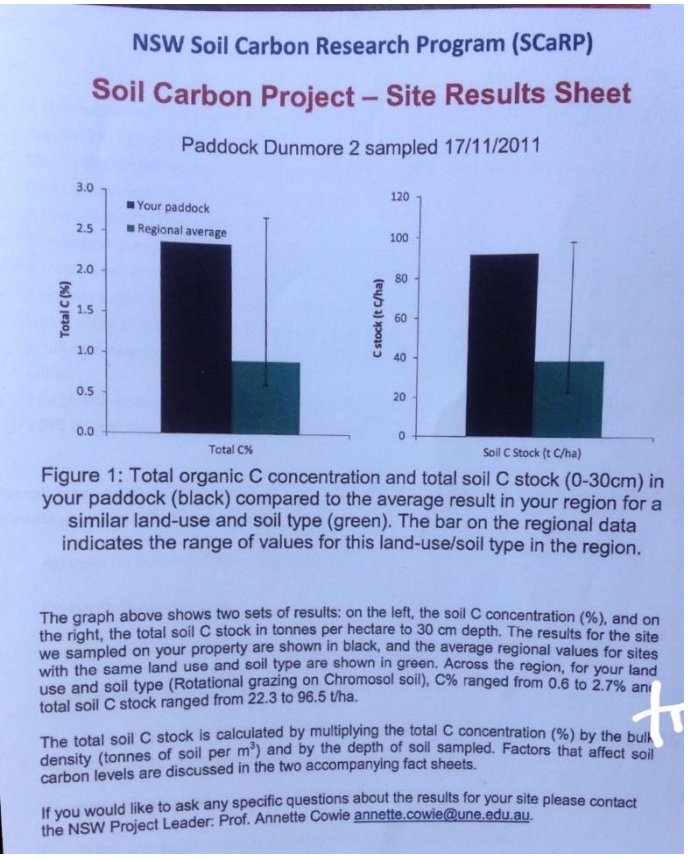
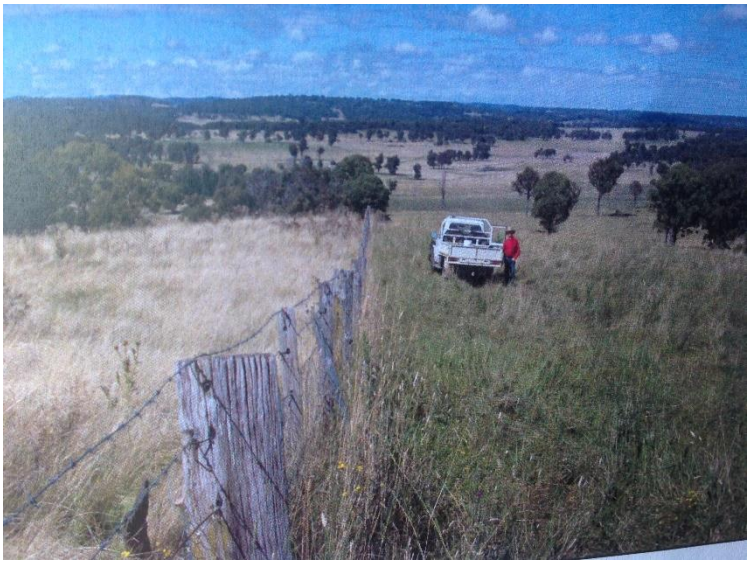


Figure 1: Total organic C concentration and total soil C stock (0-30cm) in your paddock (black) compared to the average result in your region for a similar land-use and soil type (green). The bar on the regional data indicates the range of values for this land-use/soil type in the region.

Increasing soil carbon in farmed land, parks, gardens and forestry must be factored into the Strategy. Much of New England farmed country is approximately 1.3%. Gabe Brown , N. Dakota, gives us the figures at 1%soil carbon=12mm/hr infiltration. At 3% soil carbon =200mm/hr infiltration. The graph adjacent indicates the soil carbon in the paddock shown on the right (photo below), and what a change of management achieved in a few years.

The area on the right in the photo below is performing significantly in terms of productivity and offering better opportunities for fire management and increased resilience in the face of major drought and the impacts of climate change.



Diverting eastern flows to inland catchments (Draft Strategy document p. 59)
ARRA notes that 'in previous investigations WaterNSW had eliminated options to divert water from the Clarence and Macleay catchments (to inland catchments) due to excessive costs and marginal benefits'. ARRA urges that this untenable option continues to be ruled out of consideration.

Long list of options: No 3 Oven Mountain Pumped Hydro Energy Storage (Draft Strategy document p. 143)

3. **Emergency water supply provided by new pumped hydro storage projects**	Investigate the opportunity to use water stored by future pumped hydro-electric projects in the region for firefighting and emergency town water supply. **The Oven Mountain Pumped Hydro Energy Storage project has recently been declared Critical State Significant Infrastructure. The project proposal notes the opportunity to provide town water security to Kempsey and water for firefighting.**	

The current Oven Mountain Pumped Hydro Storage (OMPHS) project, situated midway between Armidale and Kempsey, is proposed by Oven Mountain Pty Ltd, partnered with Hong Kong based company Alinta Energy and supported by consultants Lloyd's Register, Snowy Mountain Electricity Commission (SMEC) (now Snowy Hydro Limited) and Ernst & Young (EY) economic consultants.
It appears that the separation of On-site and Off-site works and Development Applications will mean that the Government will fund both the necessary, extensive road upgrades and transmission line costs (which will not be considered in the Project costs). The impacts and costs of the Off-Site Works in this inaccessible, remote area throws into question the Project's viability economically, environmentally and socially. The inclusion of this project on the remote possibility of water storage being used for firefighting and emergency town water is not warranted. Although the Project is due for commission in 2025, a realistic assessment suggests the Project will take 7 years to come on-line. By this time technologies and costs of alternative sources and storage can be expected to have significantly advanced.

This project points to the desirability of the Water Strategies exercising close watch over the impacts of all developments adjacent to water-ways.