

Capacity to Deliver

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The Benefits of a healthy Farm dam

Murrumbidgee Landcare Inc



The Benefits of a healthy Farm dam

The issue

Water Runoff can fill dams with loose organic materials from the catchment, which can lead to the water becoming unattractive, contaminated, and possibly toxic to livestock. Poor palatability of the water results in less water being consumed by livestock; if livestock are dehydrated, they don't eat as much and can't convert their food as quickly, resulting in reduced growth rates. Leptospirosis is also spread by livestock urine contaminating the water and this disease often results in fertility problems.

Unlike reservoirs and some of the bigger storage dams, farm dams haven't been used to calculate our national greenhouse gas emissions, although they are a large contributor. In 2018 Deakin's Blue Carbon Lab team found that farm dams emit significantly more greenhouse gases than lakes, reservoirs, and many natural freshwater systems.

The solution

Hay Plains Landcare hosted a Farm Dam workshop on Thursday 23rd of June. The Workshop was led by ecologist Mason Crane of the Biodiversity Conservation Trust. Mason discussed the benefits of healthy farm dams for the environment, biodiversity and livestock health and productivity.

Dr. Malerba and Deakin's Blue Carbon Lab researchers recently collaborated with the Sustainable Farms team to research the impact of fencing out a dam and reducing the amount of organic material running into the dam. Their results, published in the [prestigious journal Global Change Biology](#), showed that by fencing around farm dams to prevent livestock access and allow native grasses to grow and the natural environment to thrive, carbon emissions reduced by 56%. Fenced farm dams also recorded 32% less dissolved nitrogen, 39% less dissolved phosphorus, 22% more dissolved oxygen, and produced 56% less diffusive methane emissions than unfenced dams. The study also found that farm dams with high dissolved oxygen can stop emitting methane and start absorbing greenhouse gases from the atmosphere.

One Canadian study on water quality showed a 20% increase in growth from livestock drinking out of clean, fresh water pumped from the river into troughs compared to dams .

Healthy wetlands are becoming increasingly rare. Healthy farm dams can play a similar role to natural wetlands - helping restore biodiversity by providing much-needed wetland habitats for native wildlife. Fenced-off, well-vegetated dams become good habitat for invertebrates, fish, frogs, turtles and birds. These water species then help to improve the dam function by cycling nutrients from the dam into the wider landscape, helping reduce sediment, nutrient, salts and algal levels within the dam.

The impact

- Increased knowledge of the local and surrounding communities and their land owners.
- Increased landholder capacity.
- Increased region-specific vegetation.



Key facts

- A healthy Farm dam provides drinkable safe water for livestock and retains water for longer, especially in dry periods, while supporting native plants and animals and providing ecosystem services to the surrounding landscape.

Project Partners



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