***Independent Council for Ecosystem Restoration***
Southern Highlands
New South Wales
duane.norris@icer.org.au
www.icer.org.au

# Warragamba Wall Wont Work

## ICER Panel of Science Advisors supports Regen Action's Proposed Alternative Solution

### 1. Short History

The present site of Warragamba Dam was originally selected by the Polish Explorer, ***Count Paul Strezlecki*** as the future source of colonial Sydney's water supply, in 1845.

Building of the Dam did not start for nearly 100 years, and was begun in 1948 and completed 12 years later in 1960.

Warragamba Dams storage capacity currently sits at 2027 GL and the proposed raising of the dam wall by 14m will increase that capacity by 10%, or just over **200GL**.

The estimated cost in 2022 is $1.6 billion dollars.

The Catchment area for the Dam is 9000km2, with approximately 1.61 million acres of land eligible for regeneration.

### 2. Irony

It is so ironic that the alternative solution proposed by Regen Action, to increase the soil water holding capacity across the Catchment, was shown to be possible from the record transcripts of soil samples taken by the same Polish Explorer, ***Count Paul Strezlecki.***
In 1844, Strezlecki reported NSW soils were highly fertile and contained large amounts of Soil organic matter, which holds extra soil moisture over and above the mineral composition.

Paul Strezlecki reported that the NSW soils were on average between 7-9% soil organic carbon (SOC) and as high as 16-18% SOC in wetter areas such as swampy meadows.

Each 1 gram of Carbon held in the soils can hold between 5-8 ml of water.

3. **Meaning**

If the Warragamba Catchment could raise the level of SOC from it's present state of 2% to 3% SOC, the soils in the Catchment could hold an extra **2800GL** of water. An increase holding capacity of 1400% over the 200GL capacity gained by raising the Warragamba wall.

If the Warragamba catchment was restored to historical soil carbon levels, the resultant holding capacity is staggering. At the 7% SOC level the soils in the Catchment could hold an extra **14,000GL.**

The estimated cost for this regenerative rehydration would be of the order of $200/acre or $325 million.

4. **Opportunities**

Here are the opportunities that restorative, re-hydration practices (Regen) can bring to the Warragamba Catchment.

a) Simply by increasing SOC across the whole of catchment, peak flows would be disrupted.
b) Catchments would hold water for longer, giving multiple environmental and commercial benefits
c) Farmers could expect higher productivity and hence profitability and be able to claim Carbon credits
d) Governments could have huge tax-payer savings
e) Fire, drought and flood mitigation would follow.

The Science Panel of ICER strongly supports a feasibility study to consider the above-mentioned Cost/Benefit analysis to the people and citizens of NSW.

Raising the Dam Wall simply doesn't add up.

Signed for and on behalf of ICER Panel of Science Advisors,

Duane Norris

Duane Norris, Convenor of ICER Science Panel

## ICER Panel of Science Advisors

**Duane Norris**
University of Sydney
Educational Ecologist

**Emeritus Prof. Stuart Hill**
University of Western Sydney
Social Ecologist

**Prof. Tim Roberts AM**
University of Newcastle
Environment/Life Sciences

**Prof. Richard Bush**
University of NSW
Environmental Science

**Prof. Haikai Tane**
Australian National University / University of British Colombia
Catchment Mng/GIS/ Mapping/Environment

**Dr. Max Finlayson**
Charles Sturt University
Wetland Ecologist

**Dr. Bill Hurditch**
University of New England
Ag Science/Environment

**Dr. (h.c.) Maude Barlow**
Brescia University
Water & Environment Author
Former UN Water Commissioner (Advisor)

**Dr. Ariel Salleh**
University of Western Sydney
Sociology/Water/ Environment

**Dr. Anastassia M Makarieva**
St.Petersburg State University
Bio-Physicist. Formulated “Biotic Pump” theory

**Dr. Michal Kravčík**
Slovak Technical University
Hydrologist

**Dr Jan Pokorný**
Charles University (Prague)
Limnologist and Plant Eco-physiologist

**Peter Stevens M.Phil**
University of Newcastle
Landscape Ecology

**Thierry Uso**
Eau Secours 34
Water Ecologist/Advocate

**Marco Schmidt**
Technical University of Berlin
Landscape Architect/ Urban Planner/Rain Water Harvesting

**Martina Eiseltová**
Charles University (Prague)
Wetland restoration and sustainable management of catchments