THE UNIVERSITY OF MELBOURNE
DEPARTMENT OF INFRASTRUCTURE ENGINEERING
UNIVERSITY OF MELBOURNE

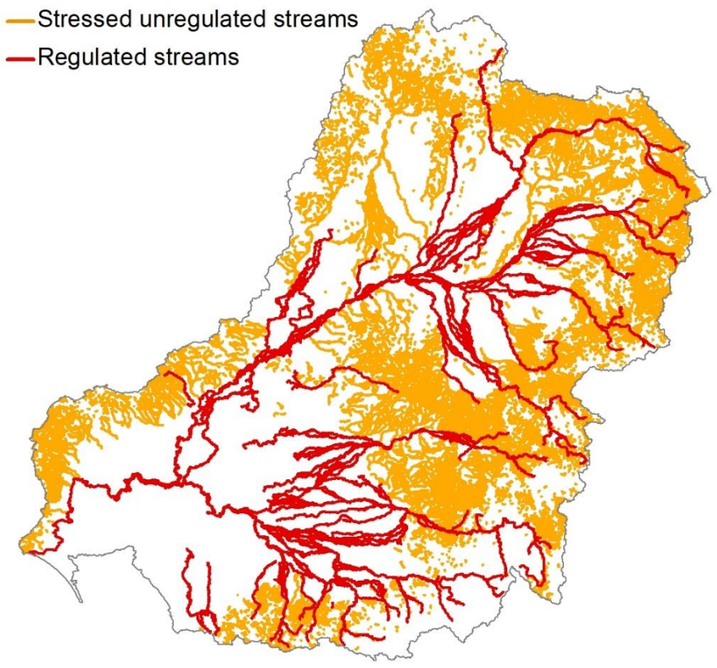
Impact of climate change on hydrology and ecology in unregulated waterways

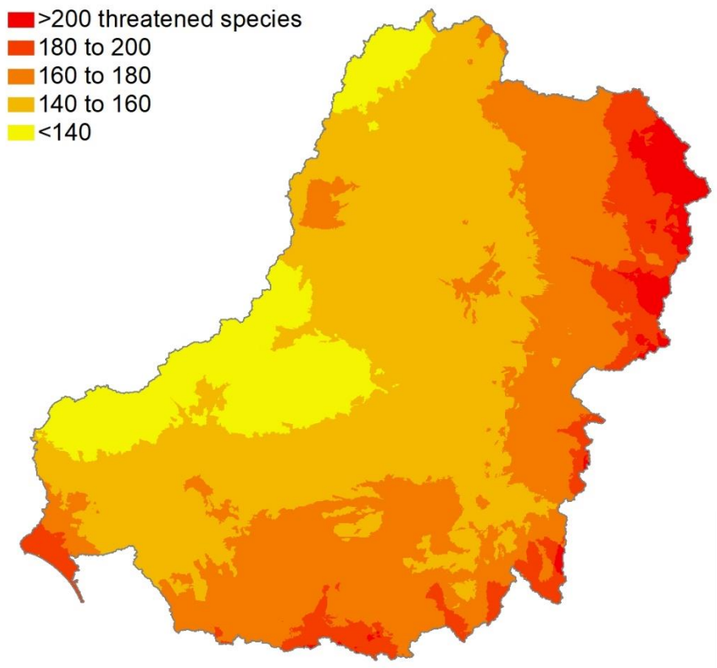
Research need

Over the last 15 years considerable work has been undertaken to assess the future impacts of climate change on long term trends in surface water flows, primarily to assist the managers of large water supply systems. In contrast, far less research has been undertaken for smaller streams to understand how future climate-driven changes in surface water flows might affect riverine ecology. This study will investigate future changes in flow and ecology due to climate or other human induced pressures in a way which assists environmental managers to make more informed decisions.

Why should we care about *unregulated* waterways?

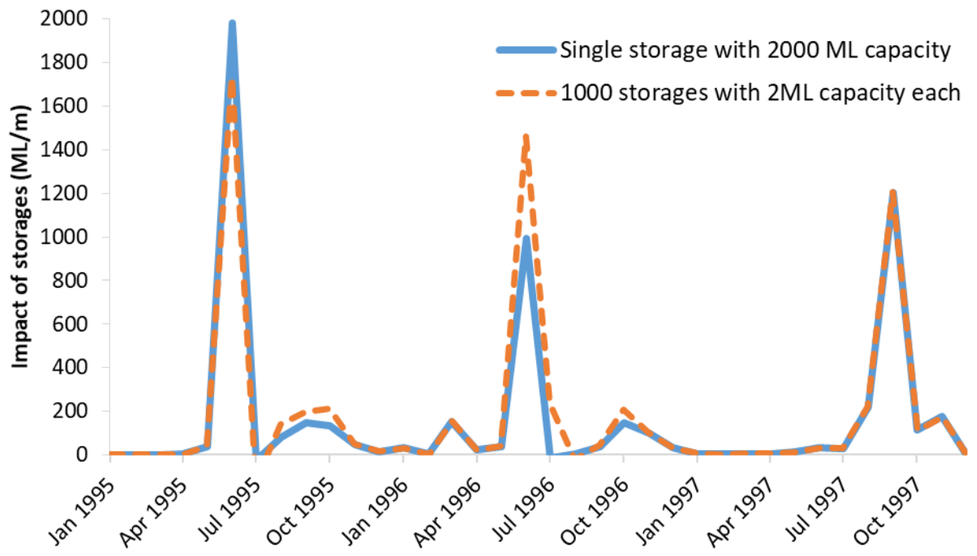
Using the Murray Darling Basin as a case study, work to date has shown that unregulated streams hold the majority of the biodiversity in the basin, despite some of these streams having a very high degree of hydrologic stress. If environmental water is actively managed in regulated waterways *only*, there is little opportunity to influence the majority of biodiversity in the basin.





Small dams = big deal

The impact of storages on the downstream flow regime is similar regardless of whether they are large or small. In other words, small dams behave as a form of 'distributed regulation'.



Discipline : Environmental Engineering

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