

A new approach to public investment in dryland salinity

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The need for a new approach

Increased knowledge and new insights, listed below, have created the opportunity to greatly strengthen the approach to regional planning and investment for management of dryland salinity.

- Effective salinity interventions are extremely costly relative to available program funds, meaning that careful targeting of investments to key assets is essential. Development of more attractive farming systems is appropriate for relatively untargeted support of landholders.
- In most areas, the current approach, relying on extension and small temporary incentives, is not working well enough. The response required is too big, and current adoption too small.
- A broader range of policy tools is needed, including engineering, measures to discourage certain land use changes, development of new, sustainable farming options that are profitable enough to be widely adopted, MBIs (in selected cases) and informed inaction.
- Some interventions can have adverse downstream effects, such as planting perennial vegetation in high rainfall areas reducing the amount of fresh runoff entering waterways.
- A new framework highlights the relative levels of public and private benefits and costs as key drivers when prioritizing investments and selecting policy tools.
- Overall, past approaches have been too simple and too optimistic about what can be achieved. The new approach needs a stronger basis on evidence, and a focus on achieving outcomes.

The Salinity Investment Framework (SIF3)

The Salinity Investment Framework (SIF3) provides the most rigorous and sophisticated approach to salinity planning and prioritization currently available. It integrates the latest research knowledge from hydrogeology, biology, farming systems, resource economics, social science and policy mechanism design. By combining these elements with local information about community values and knowledge, regional bodies can identify the responses to dryland salinity that will have the greatest overall impact in any given circumstance. For details see www.sif3.org.

Salinity impacts are considered for four asset classes: (a) water resources; (b) high-value terrestrial assets such as built infrastructure and key biodiversity assets; (c) dispersed assets such as agricultural land and on-farm remnant vegetation; (d) salt-affected land. For each class, SIF3 provides a decision tree for the appropriate investment response, depending on a set of bio-physical and socio-economic criteria. Particularly in classes (a) and (b), the focus is on specific assets, including an assessment of the management responses needed.

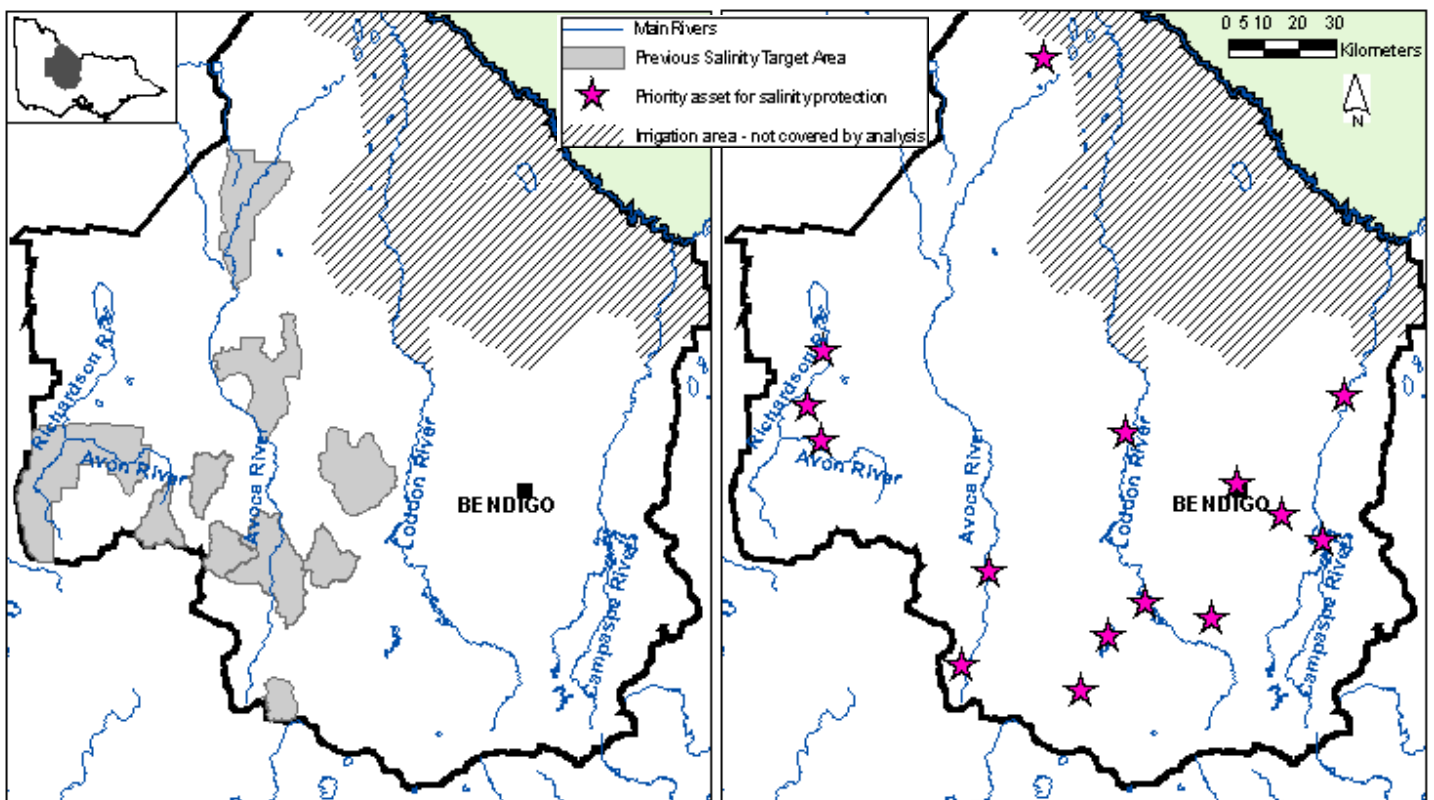
Results for the North Central CMA region of Victoria

The North Central Catchment Management Authority has taken a leading role in trialing SIF3 in partnership with the CRC Salinity. The agreed process involved: engagement with stakeholders, use of the best available science, and application of the SIF3 decision trees to identify recommended responses (including consideration of asset value, threat, feasibility of management, adoptability of new management options, and cost).

The North Central CMA has been delighted with results of SIF3. Substantial changes to salinity investments are being made, with funds for on-ground works being concentrated on a smaller number of assets of outstanding value, facing high salinity impact, and with relatively high feasibility of management.

For example, in the Avon Richardson catchment, incentives payment to grow perennial pastures on agricultural land in the upper catchment will cease because the available perennial pasture options are not profitable enough to prompt widespread adoption, and because, in any case, the potential resulting change to salinity threat in the lower catchment is very small, and very long delayed. Instead, investment will concentrate on protecting selected specific high-value assets (the Avon Plains lakes and York Plains wetlands), which are at risk but were not being protected.

The figure below shows the shift from the current ‘target area’ approach (on the left) to tightly targeted works that protect specific high-value assets (on the right). Works will occur only in those areas of the sub-catchment where they can have a substantial positive impact on the relevant asset. Variations of the ‘target area’ approach are currently used in many regions.



The CMA recognises that past assumptions on the profitability of perennial-based farming systems were overly optimistic. As a result, it has partnered with the Future Farm Industries CRC to develop more profitable and sustainable farming systems in the region.

The North Central CMA is now committed to using an asset-based approach to selecting on-ground works for salinity management as demonstrated through the Draft Land Management Plan for the region. The process used enables a rigorous debate about community-held aspirations and the implication of the most up-to-date research. Analysis indicates that the change will result in much greater cost-effectiveness of investment. The experience in the North Central region demonstrates that substantial improvements in public investments into salinity can be made by combining science, community knowledge, a rigorous framework and a partnership approach. The approach will be applicable to many other regions in Australia, and, with adaptation, to other resource management problems.