

SIF3 Tour of South Coast Region, 31 July – 2 August 2006

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1. Background

The SIF3 framework has been developed in an attempt to help investors improve the cost-effectiveness of dryland salinity investments. The framework integrates biological, physical, social and economic aspects and makes recommendations about priorities and what sort of interventions to use (e.g. extension, incentives, engineering, technology development). For more information on the framework, see www.sif3.org.

The SIF3 project is a collaboration between CRC Salinity and two regional NRM bodies (South Coast Regional Initiative Planning Team (SCRIPT) in WA and the North Central Catchment Management Authority in Victoria). The project, which aims to test and improve the framework, is funded by the CRC Salinity and the Cooperative Venture for Capacity Building. As part of the project, the team held a field tour in areas of the South Coast Region. The aims were:

- (a) to understand salinity-related threats in the region and possible responses;
- (b) to collect local knowledge from community members and technical experts;
- (c) to understand social capacity issues in the region; and
- (d) to build links between the project team and SCRIPT.

This is preparation for our analysis of a range of specific assets¹/sites later in the year. The analyses will not be limited to sites we visited on this tour.

This document is a brief summary for participants of the tour, including preliminary observations about the regions, assets and institutional issues. It does not contain our recommendations about management of any of the assets. We welcome feedback from participants, especially if we have misunderstood or misrepresented any issues.

2. Observations on the regions, assets and issues

31 July - Upper Hay - Michael Lanigan's farm and nearby bluegum plantation

Participants: Michael Lanigan (farmer), Ruhi Ferdowsian (DAFWA), John Blake (DAFWA), Ron Master (DAFWA), David Rushton (Dept of Water), Lynn Heppell (WICC), Louise Hillman (SCRIPT), Alan Carter (SCRIPT/Greenskills)

A high-rainfall area. Michael manages beef cattle and sheep and relatively small areas of cropping. He manages the farm on behalf of other corporate owners. The farm is relatively large for this area, running 13.5 DSE/ha compared to a district average of 9DSE/ha. Michael is the Chair of the Wilson Inlet Catchment Committee (WICC).

¹ By “asset” we mean a specific, concrete entity of value, such as a wetland, a road or a reserve. An asset is a particular entity in a particular location, rather than the set of entities of a particular type. This is so that we can identify the actions that would need to be undertaken to protect or manage an asset.

The Upper Hay is a priority catchment and the farm is at the head of the Hay River. Other assets in the area were considered to be: high value agricultural land (horticulture, viticulture); Denmark River – a future source of potable water; wetlands; and Wilson Inlet.

There are large areas of flat land with shallow water tables. There are problems of nutrient and sediment entering the Wilson Inlet. Salinity *per se* is a secondary issue, but salinised land contributes to the key problems of sediment and nutrient movement. A major problem for the farmer is water logging. There is a lot of water lying around, as reflected in the presence of several lakes/wetlands. The lakes and wetlands are likely to go saline.

Wilson Inlet Catchment Council has been active in providing incentive payments to farmers in the catchment. People in Denmark want Wilson's Inlet to be in good condition, and there is an action plan to reduce nutrients.

Perennial plant options: As part of a comprehensive farm plan to increase perennality developed by Ruhi, a number of perennial options have been proposed, including lucerne on the better drained areas and fescue, chicory and kikuyu on other areas as well as salt-tolerant species. Ruhi was proposing that cropping should be concentrated in small areas which Michael seemed willing to consider. Michael was not particularly keen on lucerne but was more willing to consider the other grasses. Even with incentives, increasing the use of perennial pastures will not be easy. Michael said that perennials took time to establish and new management techniques needed to be learnt. There could not afford to be failures in the establishment of perennials, he said, or farmers would not try them again. Technical support is crucial. He added that, with smaller paddocks and rotational grazing, annual pastures could be stocked as heavily as perennials.

Low lying areas are seen as most at risk and with least opportunity cost to fix. Our impressions were that the farm planning proposed was very ambitious and it was unclear as to how much land use change would be possible in the next few years. Detailed whole farm economic analysis is being done for representative farms in the region and this will provide useful information as to the realism of the perennality suggestions in the farm plan.

Large areas of blue gums in the area (not on Michael's farm) (Denbarker is ~80% bluegums) have effectively managed water tables and have reduced the volume of salty water leaving the catchment. There was little discussion about the salt and water yield trade-off issues; blue gums were generally seen as having a positive impact on hydrology. However they have also reduced the population of the local community, and are increasing some feral animal problems. The lack of discussion about salt/water yield trade-offs could be related to that fact that the Denmark river has not been allocated for consumptive use. As it would be a future potential water supply issue for Albany (which currently draws most water from groundwater resources) this discussion could become more important in future and is something SCRIPT may need to become more engaged in. Some companies (ITC) are protecting remnant vegetation and corridors.

In parts of the farm there is little lateral movement of groundwater and groundwater systems are largely local. Containment of salinity then depends on establishment of perennials directly on the affected areas. In other areas, there is more topographical relief, and some water movement (close to the river).

We got the impression that biodiversity (e.g. wetlands, remnant vegetation assets) may not have been well characterised in terms of their importance, but this could have been because we did not have biodiversity experts with us this morning. In general, assets were not mapped, categorised or prioritised and the process of identifying them is still ongoing as part of the biodiversity mapping project.

It was stated that 95% of the community is involved in resource protection activities in this area, partly due to the availability of money for on-ground works. The catchment management process is 'run by the community rather than the agency'. Executive burnout is an issue in groups and implementing plans are an issue when most group members are not farmers (relates to WINRAP).

There seems to be a lot of technical and economic work going into farm plans, but we felt that there may be unrealistic expectations (by agencies and possibly catchment groups) about implementation.

Kalgan River – Heather and Mark Adams' farm

Participants: Heather Adams (farmer), Mark Adams (farmer), four other local farmers, Ruhi Ferdowsian (DAFWA), John Blake (DAFWA), Ron Master (DAFWA), Louise Hillman (SCRIPT), Alan Carter (SCRIPT/Greenskills), Deon Utber (CALM), David Jan (SCRIPT)

The Kalgan catchment is a priority region, with the Kalgan River identified as a priority asset for SCRIPT, as are the Stirling Ranges and the Porongorups (although the two ranges themselves do not face salinity problems). The Kalgan River flows into Oyster Harbour in Albany, which is another priority asset. There are problems with salinity affecting agricultural land, salinity affecting the Kalgan, and nutrients and sediment affecting the Kalgan and Oyster Harbour.

There are 24 sub-catchments identified by SCRIPT for possible intervention, of which 10 are priorities, and three have been targeted first. The idea is that after these three have been treated, another group will be worked on. Heather leads the group of farmers for one of those three. Participation in the group is excellent (20 out of 22 farmers). Achievement of management targets is believed by the farmers to be possible, at least for this group. Even for them, it appears likely to be delayed due to seasonal conditions in 2006. Achievement of targets is likely to be considerably more challenging for other groups.

Possible management options viewed or discussed: lucerne, biodiversity plantings along creek, maritime pines on sandy soils, *Casuarina obesa* on salt land, native salt-tolerant couch grass, Eucalypts in alley formation.

Groundwater systems vary widely. They are highly responsive in some areas (e.g. on the southern side of the Kalgan). Salinity problem is quite tractable in those areas.

The alley system plantings on the sandplain soils were an impressive feature of the Adams' property. Heather's comments were that sandplains should not look like vast areas of agriculture exposed to wind erosion. The alley work has been done in partnership with the Infinitree program, who share the work load so that the Adams can concentrate on cropping between the alleys.

There has not as yet been a lot of emphasis on biodiversity but this will occur in time. It appears that there will now be more focus on biodiversity on private land, from SCRIPT and CALM. Surface drainage (carefully planned with the emphasis on moving fresh water being moved away from high risk areas) is a high priority currently.

Heather expressed an increasing need by land holders for access to NRM expertise – a need she thought agencies found difficult to keep up with.

1 August - Jerramungup-Bremer – Tom Bryan’s farm and Wellstead Estuary

Participants: Ruhi Ferdowsian (DAFWA), Tim Overheu (DAFWA), Samantha Rayner (Fitzgerald Biosphere Group), Phil Hadley, Tom Bryan (farmer), Keith Devenish (DAFWA)

Key assets include the Bremer River, which flow into the Wellstead Estuary, and the Gairdiner River, which flows into the Gordon Inlet. Problems include salinisation of farm land, and salinity, sediment and nutrients in the rivers (particularly rock pools which have unique and diverse “assemblages”) and the estuary. There are some pressures on the estuary from urban development in the town of Bremer Bay. Much of the salt in the Wellstead Estuary comes from Devil’s Creek. It’s higher salinity levels may partly reflect a relatively long duration since clearing.

Tom Bryan has planted saltbush and tall wheat grass on a large salt-affected paddock. Although only recently planted (October), establishment has been successful. Other salt-tolerant plants (creeping saltbush and samphire) are also present in the paddock.

Tom’s management efforts are impressive, with much degraded land fenced off and half sown to salt-tolerant species. Ruhi suggests that the recovery prospects for salt-affected land in this region are very good. Tom is acutely aware that his farm is the second highest in the catchment and contributes salty water downstream.

There is probably very low lateral movement of groundwater in this paddock, but the saltbush and tall wheat grass would maintain the water table at a lower level and allow eventual freshening of the surface layer and of the creek line. Neighbouring woody perennials would not be of benefit in the salt-affected paddock.

The local view is that lucerne cannot be grown successfully in this area, as it does not persist beyond a couple of years. The reasons for this, however, were not known. It may be soil factors, insects, disease, management, or perhaps unfavourable climate in the years when lucerne has been attempted. This area generally suffers from too much rain (an issue for lucerne which does not like being waterlogged). Keith also suggested that there is not good technical support in this relatively isolated area (since Roy Latta left) and there is a lack of a ‘lucerne champion’. Tim suggested there was a need to engage consultants, some of whom were not “up to date”. The negative views about lucerne contrasted from the view of farmers at Lee’s farm.

Keith Devenish from DAFWA highlighted the importance of providing vegetative cover on salt-affected land, and that this can make a major contribution to reductions in sediment and nutrients in downstream waterways and water bodies. He proposed that it should be a high priority for cost-effective public investment.

It was mentioned that farm build-up is happening in this area and that reliance on off-farm income is small.

Wellstead estuary

The estuary is under large pressure from human development. The farmers upstream are emotionally connected to the estuary, using the coast as a place of recreation. Community aspirations have been identified in the Wellstead catchment management plan which was launched in June and has 5 strategies. The resource condition targets are to improve water quality outcomes by 2020.

Fitzgerald – Linda Lee's farm

Participants: Ruhi Ferdowsian (DAFWA), Tim Overheu (DAFWA), Samantha Rayner (Fitzgerald Biosphere Group), Keith Devenish (DAFWA), Linda Lee (farmer and CDI manager), Trevor Ross (farmer and Chair of the CDI Management Committee), Stuart Bee (farmer), Cathy Wittwer (CSIRO), another CSIRO scientist.

Fitzgerald Catchment Demonstration Initiative is part of a state-government-funded program. Funding over 4 years is intended to demonstrate best-practice salinity management. Fitzgerald CDI is one of a number of programs funded across the south-west of WA. It is administered by SCRIPT.

The CDI group is a highly motivated and competent group of landholders. Key issues are salinisation of farm land and water quality of rivers flowing through the Fitzgerald River National Park, which is immediately downstream.

In contrast to the nearby Bremer region, lucerne is viewed very positively here, perhaps in part due to the efforts of nationally recognised lucerne champion Geoff Bee. His son Stuart is part of the CDI group. The comment was made that having local farmer champions to advocate lucerne is likely to be an important part of increased lucerne adoption. On the other hand, the experience of another champion of the 1970s and '80s in the Esperance sandplain was not so positive. Garry English advises that David Johnson lost thousands of acres of lucerne and then became widely known for his work with other perennials, particularly kikuyu.

Efforts to establish vegetation on salt-land have been very successful.

The group is putting a big emphasis on monitoring and evaluating the impacts of their efforts. They are well aware that within the four-year time frame of funding it is unlikely to be possible to discern impacts, especially in downstream waterways, but they realistically see their role as establishing strong base-line data. CSIRO is doing comprehensive monitoring of streams.

Trevor mentioned that part of his reason for growing lucerne, in addition to the economic benefits of producing prime out-of-season lambs, was to protect the river from increasing salinity.

Notwithstanding the positive views of this group, the level of adoption of lucerne in these areas currently remains low: 5% of area in Jerramungup, 2% in Ravensthorpe. Increasing perenniality sufficiently to achieve off-farm salinity outcomes remains a very large challenge.

In many areas of WA, the concept of the CDI to demonstrate salinity best-practice was perhaps too ambitious, given the lack of suitable and adoptable practices, but in this area the project seems more likely to fulfill the program's objectives.

2 August - Stokes Inlet/Young River – Michael Whiting's farm

Participants: Frank D'Emden (DAFWA), Owen Massenbauer (Esperance Regional Forum), Tilo Massenbauer (CALM), Ian Hughes (Ranger for Stokes Inlet), Michael Whiting (local farmer), John Simons (DAFWA), Annabelle Bushell (SCRIPT), Brendan Nicholas (DAFWA), SCRIPT Management Committee members, including Garry English (chair, SCRIPT), Rob Edkins (CEO, SCRIPT), Neil Blake (SCRIPT), Chris Gunby (Dept Water), Sharon Williams (SCRIPT), and others.

Stokes Inlet is a major asset with high social values for recreation, particularly angling. It is also commercially fished. It is being affected by salinity, nutrients and sediment from two rivers: the Young and the Lort. Salinity levels in the inlet fluctuate with the cycle of filling and evaporation. At times they are excessive for all fish species except black bream.

Both rivers mostly have impressively large intact riparian vegetation and of an under-represented vegetation type. Vegetation was retained as these steeper areas were known to be fragile and adverse outcomes from prior clearing in the region had been observed. (However some of the tributaries leading into these rivers have been extensively cleared on the steep slopes.) The Young catchment has been identified as a very high priority from a biodiversity threat analysis across the wheatbelt in SIF1/2.

There are also significant biodiversity assets associated with the rivers (pools – 79 larger and 20 smaller pools with vegetation assemblages of importance as identified by an agricultural vegetation survey.) and the vegetation corridors.

Heritage and cultural values are only poorly understood.

Ian Hughes said that the Inlet was facing pressures from increased visitation (10 – 12,000 per year – mainly families) and increased fishing effort.

Owen Massenbauer described the process of planning and analysis that has been undertaken for the Young catchment, which is being addressed before the Lort, largely due to perceived greater community capacity in the Young catchment. As there is no settlement next to the estuary there are issues about who they should consult (and how they should do this) in the planning process (e.g. visitors).

The focus on protecting steep areas (2.5-4.0% viewed as moderate risk, and above 4.0% viewed as high risk) on tributaries relatively low in the catchment appears sound. These areas are contributing large amount of sediment to the estuary. The focus will be on on-ground works in these areas over the next couple of years of the NAP (and NHT through being a SCRIPT strategic catchment).

Of major concern is the difficulty of getting substantial responses from farmers in the upper catchment who are predominantly croppers (often 80-100%). The prospects of substantially reducing salinity, sediment and nutrient loads from this area appear poor, unless commercial tree companies focus on the area. Farmer Michael Whiting (leader of the Young Catchment Group) has made substantial efforts to establish salt-tolerant perennials around salt affected

areas which will reduce, though not eliminate, downstream impacts. There seemed to be some options for assistance in doing this (e.g. FPC). Michael also suggested there was scope to redo surface water management systems (e.g. grade banks) now that tillage systems had changed substantially (to no-till).

Michael Whiting's farm and others nearby are highly cleared, the clearing having occurred by a US company in the 1950s who had visions of re-creating a prairie-like landscape. Michael has now removed all stock from his farm; stock had been causing damage to creeks. Removing stock has removed the need for creekline fencing, but has also reduced the options for markedly increasing perennials over large parts of the landscape. This raises some questions about the ability to limit agriculture's impacts on downstream assets. Michael suggests that only about three of the 30 farmers in the catchment would be interested in perennials.

Michael made the point that his catchment group supported research and development, as it was looking at a 25-year plan, and did not think it would be able to achieve that on the basis of past research alone.

An interesting observation by John Simons was that in this part of the region, salinity tended to occur first high in the catchment, due to the shallowness there of basement rock. This highlights the importance of having a good understanding of local hydrogeological conditions. In discussions, John also strongly emphasised the essential need to target effort to a small number of assets, given the substantial cost of protecting any particular asset and the limited budget of public funds to support this.

John also described how local flow systems are mainly associated with sandplain soils. The further north in the catchment, the greater is the emphasis on cropping, and there also tend to be larger (less responsive) groundwater systems. Flowtune modelling indicates that, in the absence of substantial land-use change, a shallow (<1 m) watertable will develop along the entire lengths of the Lort and Young Rivers within 45 years.

Lake Warden – Wes Graham's farm

Participants: Frank D'Emden (DAFWA), Owen Massenbauer (Esperance Regional Forum), Tilo Massenbauer (CALM), John Simons (DAFWA), Annabelle Bushell (SCRIPT), Brendan Nicholas (DAFWA), Garry English (chair, SCRIPT), Wes Graham (farmer & Lake Warden Project Management Team member), Kira Büttler (DAFWA), Robyn Cail (Esperance Regional Forum)

We visited Wes Graham's farm. Wes is a commercial farmer in the region, but lives close to the more intensively developed areas close to Lake Warden. Wes is interested in obtaining incentive money to grow perennials and would be less interested in growing perennials without any incentive funding. Wes is planning on sowing 500 acres per year for the next three years, with a \$60/ha incentive. Kikuyu is the best suited perennial option, although it does limit stock fattening options a little.

Lake Warden is a Ramsar-listed wetland and therefore of international significance. It is one of a large number of lakes close to Esperance town that are important from environmental and social perspectives.

The lakes are under pressure from current land uses in the catchment, notably agriculture and hobby farming/urban pressures. The primary concern with Lake Warden is the volume of water that is now reaching the lake, following replacement of perennial vegetation with annual agricultural land uses. The excess of water is greatly reducing the value of the lake as a habitat for migratory wading birds.

Lake Warden is a Biodiversity Recovery Catchment under the State Salinity Plan, and has been for some years. The program team for Lake Warden, led by Tilo Massenbauer, has undertaken a systematic and sophisticated approach to planning the works to be undertaken supported by public money within the catchment. The approach was based on SIF1/2, and applied to a single asset after a whole catchment biodiversity values prioritisation assessment was conducted.

The catchment has been broken up into four areas of different priority for intervention. The priority 1, 2 and 3 areas have 28,000 ha of land not in perennial cover. The target is to provide perennial cover on half of this area by the year 2030. It appears that after 3 years of implementation, perennial pastures will be committed to 8,000 ha, or more than half of the target area, which seems an outstanding result. Biodiversity plantings, and public and private agro-forestry is expected to add a further 6,000 ha to the target over the next three years. This investment within the target priority zones will benefit not only the Lake Warden System asset but also other identified assets such as Shark Lake, Monjinup Lake and strategic vegetation corridor links.

Tilo emphasised the importance of undertaking prioritisation analysis prior to engaging with the farming community in the catchment. This avoids the creation of expectations that can later compromise the achievement of outcomes.

Lake Warden also faces a problem with a large-number of small landholders close to the lake, all in the Priority 1 (most important) area. Around Australia, government agencies have struggled with the problem of how to engage with small landholders. However the Esperance team seems to have tackled the problem very effectively. Victorian has a much larger number of small landholders, but has not addressed the related NRM issues as effectively as it is being done in Esperance.

Other observations:

- There is also a large engineering plan to remove water from the wetland via a pipe.
- The Shire is very supportive and their people are included on the team
- The project involves different rates for perennial incentives in different zones, depending on their priority and the type of landholders. In principle, we support this approach, where there are clear arguments for different incentive rates.
- There is still a golf course on the lake edge using re-cycled sewerage which could potentially be acting as a point-source polluter.
- Further semi-urban development near the lakes appears to be in prospect, and if so this threatens the good work that has been done. This seems an important issue to work with local government about. The Esperance Shire Council has adopted the three priority areas into strategic planning documents which are currently before the WA Planning Commission.
- Tilo stressed the monitoring they were doing, looking at the effects of treatments

Overall from what we have seen, we believe that the work of the Lake Warden team is likely to be the best example of environmental planning of this type in Australia. Most strikingly, they have not had their prioritisation substantially compromised by politicised consideration of “equity”. Instead they have focussed on cost-effective protection of the asset (through works mainly in the lower and middle catchment), and as a result they appear to have a real chance to succeed in achieving their targets (in stark contrast to comparable projects in almost all other regions). The crucial need to complete the analysis phase before community engagement was emphasised repeatedly.

3. Other observations

Time frames

In discussing the Lake Warden analysis, we noted the importance of taking time to analyse, plan and implement. This was reinforced by comments from a number of people we met on the tour. For example: “We are struggling because we do not have enough time to go through an appropriate process. A successful project needs more than one or two years to be completed.”

Different social groups

We note that the non-commercial landholders near Lake Warden (and elsewhere) are a very different group of people to the large commercial landholders who own most land in the region. They are likely to be motivated differently, and to face different sorts of constraints, and so will require SCRIPT to use a different approach to engagement. Based on our limited exposure to it, the approach taken with lifestyle landholders near Lake Warden appears appropriate. We will be continuing to examine the issue of lifestyle farmers over the coming year, and may have further advice later.

Targeting

Achieving real outcomes in this environment is a considerable challenge, and only for Lake Warden were we confident that the challenge will be met. Overall, there is probably still a need to target investments in a more focussed way. In most areas, the scale of land-use change being achieved is probably having a modest influence (at best) on downstream impacts related to salinity. We need to think carefully about whether the scales of land-use change that can realistically be expected to result from SCRIPT’s investments will be sufficient.

Contributing to the essential need for targeting is the fact that there is a vast number of high-value assets that could be selected for protection. For example, there are 35 estuaries on the south coast and only 5 have management plans. Funding will only ever be sufficient to provide direct funding support that is sufficient to make a real difference for a small minority of these assets.

The targeting approach appears to be much stronger and more systematic in the east (especially Lake Warden) than in the west, although this needs to be verified.

A lesson from the Lake Warden experience is the value of long-term security of tenure of the core project team (Warden) (funded by SCRIPT and DEC). The fact that Lake Warden has the status of recovery catchment, and will continue to have that status, has allowed the team to plan with confidence, and to take time to get the analysis and planning right. The team

began planning about three years ago and had good access to resources (expertise as well as funds).

We were struck by the contrast in the approach taken in WA compared with Victoria. In Victoria investment plans were developed and implemented rapidly, with the result that investment in priority areas in North Central have occurred over the past 4 years. However, we judge that they will not achieve salinity outcomes. In SCRIPT, planning has been considered and slower, and appears to be more targeted. Nevertheless with only 2-3 years for large investment on private land, the uptake will need to be massive and rapid.

Agency relationships

We observed that there are positive relationships between SCRIPT and relevant agencies. In the main, it appears very much to be a joint effort, pursued constructively and with good will. Victorian members of the SIF3 team were particularly impressed by the good relations between SCRIPT and agencies, as well as the general optimism about tackling the salinity problem.

Technical experts and research

Again and again the importance of good technical support for landholders was emphasised to us. It was stated that this is actually more important than the provision of incentives, and we are inclined to agree. Related to this is the risk of bad trial results, which can have an enduring adverse impact on attitudes to that technology within an area. It can be hard to combat negative attitudes once they are established. This may be part of the explanation for the adverse attitude to lucerne in the Bremer region.

The above comments on targeting also reinforces the importance of technical support and development of new technologies (e.g. new perennial plant types or varieties), and new farming systems that can be attractive to farmers over a large scale. If successful, this has the potential to reach larger areas than can be covered by incentives. It also provides scope for leverage of external funding. We noted that there is wide support for the need for ongoing research and technology development.

We were impressed by the clarity of communication by the technical experts we met, and by the breadth of their knowledge. Neither of these can be taken for granted, judging by our experiences elsewhere.

Farmers' motivations

The farmers we spoke to uniformly said they were driven by profit. In many regions around Australia, one of the greatest challenges to achievement of NRM outcomes is the farm-level economics of perennials. The south coast probably is as well placed as any region in this regard. As a generalisation, in most areas we visited, it appears that there are perennial plant options that are at least within striking distance of being sufficiently profitable to be adoptable. In most areas they are not yet profitable enough to drive their own rapid adoption on a large scale, but, unlike most regions, it is at least conceivable that this can be achieved with suitable interventions, at least in target areas. This is not to say that it will be easy. Areas of perennials are currently low in all areas. Achieving high areas (which are needed to contain salinity) will require either (a) concerted efforts in target areas that are small enough for the available resources to do the required job, or (b) the availability of significantly improved plant varieties or species, or changed market conditions, so that the available options are profitable enough to drive their own adoption.

The farmers were also driven by social factors. They expressed views about how the country should look, and concerns about land degradation occurring on their “watch”. One was proud of having turned a "dungeon" (a salt scald) into a place she now likes to visit.

We heard a number of times that larger incentive payments would make a substantial difference to adoption. This may be true in particular cases, but as a generalisation we were sceptical. Even if they were doubled, incentives would still be small relative to the total costs and benefits of planting perennials. The overall attractiveness of new land uses to landholders (independent of incentives) remains the key factor driving their long-term adoption. To use incentives to compensate farmers in cases where perennials are clearly less profitable than current land uses would be excessively expensive and unjustified apart from exceptional cases.

The fact that the farming community seem to have close links to the coast for recreational purposes is a major plus for this region in terms of farmers having a vested interest in minimising their adverse off-site impacts from farming. This is unlike many other catchment management regions in Australia and should be made the most of by SCRIPT and agencies.

We were particularly struck by the level of pride that was evident among the farmers we met. They are rightly proud of their efforts, and this is a significant factor in their ongoing contributions. There were also signs of pride in the community: the sign at the entrances to Jerramungup, "Soldier Settlement Country"; the same message on special numberplates on a farmer's car. Central and eastern areas were relatively newly settled. The original settlers had either sold out or handed on to their children, somewhat reducing the pioneering feel but increasing the social cohesiveness (the new generation having grown up together).

One of the issues that generated the most obvious pride was successful management of salt-affected land. Discussions highlighted the high potential of salt-affected land to qualify as a priority issue for SCRIPT. Advantages of addressing discharge areas ahead of recharge areas include: the scale of response required, the positive impacts on sedimentation of ecologically significant rock pools in water courses, the time frame over which benefits will be generated, in some cases, better economics of the land-use changes needed, and the improvement in aesthetics, which can be a motivator for landholders.

Incentives

Almost all the “landcare” activity we saw was supported by incentive payments, although it was acknowledged that the effect of the incentives was to bring forward in time adoption that would have happened eventually.

Around Australia, expectations from the use of incentives are often unrealistic. In particular, small temporary incentives, such as \$60 up-front payments, can only be effective in advancing the uptake of options that are highly adoptable. They are “bait” to encourage trialling, but after that farmers will make their own decisions based on the trial results. At least some of the people we met did seem to have a grasp of this, and the ways in which incentives are being used generally appears reasonable, provided that they are being targeted to appropriate assets.

Conclusion

Salinity was a serious problem everywhere we visited, although in some cases its most serious costs were indirect, through causing the mobilisation of sediment and nutrients into waterways. This does not really alter the required responses, although it may affect the spatial targeting of actions. We were impressed with a number of aspects of the tour, as described earlier, although we suspect that there is a tendency for people to be overly optimistic about the rate of uptake that is likely, especially in the next couple of years. We will need to do a detailed analysis to evaluate the prioritisation and targeting that has been done, but our early impression is that, in some cases, the targeting of on-ground works has not been sufficiently tight or systematic.

4. Where to from here?

- Confirm the accuracy of this report of initial observations by circulating to participants and inviting feedback and correction;
- Discuss with SCRIPT the process they would like us to engage in from here.
- Conduct a workshop to identify the set of potential priority assets for SIF3 analysis;
- Collect and bring together available data sets required for SIF3 framework
- Assess whether some or all data sets are available in a GIS framework;
- Apply SIF3 framework. Identify investment recommendations;
- Report preliminary findings and recommendation to SCRIPT;
- After discussion with SCRIPT, and any necessary revisions to report, circulate it to other stakeholders;

Other feedback comments for discussion

The concept of priority sub catchments and the time frames of sub catchment plans versus whole of catchment plans for instance may have been mis-interpreted (eg. in your conclusions on achievability). (John Blake)