WOADY YALOAK
Productive Catchment Management

Woady Yaloak Catchment Group

Five year direction plan
(2003-2007)

February 2003

(Draft – Version 1)

About the catchment

The Woady Yaloak Catchment covers an area of 115,000 ha and is located south west of Ballarat. The headwaters of the Woady Yaloak River begin north of Haddon and flow south through Cressy. The natural outflow of the River is Lake Corangamite.

Approximately 80 per cent of the land in the catchment is privately owned. The remainder of public land is predominantly state forest of messmate stringybark. The state forest effectively divides the catchment into two distinct areas, the broadacre agricultural land to the south and the more densely settles small blocks to the north. It is estimated the Woady Yaloak catchment is home to 220 farming families and an estimated 1,100 small block owners.

Numerous studies, reports and strategies have documented the natural resource management issues in the catchment. These include:

- Pest animal (rabbits) and pest plant (gorse, serrated tussock) management on farmland and waterways.
- The decline in the amount and quality of remnant vegetation in the catchment, especially along waterways and throughout native grasslands.
- Siltation of some waterways because of active erosion, weed invasion and stock access.
- Poor water quality because of salinity and nutrients inflows.

The end of catchment water monitoring station at Cressy indicate a median salinity of 6,900 EC and a poor water quality status in relation to nutrients (phosphorus and nitrogen) and fair status for turbidity (National Land and water Resources Audit). More recent water quality monitoring suggests an increasing trend in salinity over the past three decades (Dahlhaus, pers comm).

What has occurred in the past decade?

Many of the environmental issues were already recognised by the catchment community in the late 1980's and this was the catalyst for the formation of landcare groups in the catchment. In 1993 these landcare groups joined forces and the Woady Yaloak Catchment Project commenced. A five-year plan was developed, which tackled the issues of rabbits, erosion, revegetation and pasture improvement. Significant on ground activity resulted including direct support for the establishment of 4,000 ha of perennial pasture, 135 ha of trees, the stabilisation of 40 ha of erosion and the elimination of an estimated 200,000 rabbits.

The second five-year cycle of the Woady Yaloak Catchment Project broadened the approach to landscape management. There was increasing emphasis on the 'triple bottom line' approach of combined economic, social and environmental outcomes. The need for integrated actions across farm boundaries also became more obvious. A series of workshops conducted in 1999 with the catchment community identified four outcomes the community, DNRE and the CCMA wished to achieve in the next decade. These were:

- Viable businesses.
- Strong communities capable of managing change.
- A natural environment that nurtures business viability and that works within the capacity of the catchment.
- Protection and enhancement of the flora and fauna.

A 2001 audit of the landcare activities conducted in the catchment during the past decade revealed significant progress towards meeting some of these outcomes. In particular farm profitability rose compared to comparable enterprises in south-western Victoria and the growth of small 'neighbourhood groups' to discuss, plan and implement integrated, across farm boundary works strengthened the communities capacity to change practices. The audit also found the huge quantity of non incentive funded works landholders were doing to improve the environment. Finally the audit highlighted the need to do more to protect and enhance the flora and fauna in the catchment.

However the most important outcome of the decade of the Woady Yaloak Catchment Project is arguably the knowledge that has been gained in how to engage and sustain high levels of *voluntary* community involvement in natural resource management. This activity has led to a set of beliefs about the catchment and its community that underpins this five-year plan. These are:

- Landscape change will require voluntary participation by the majority of landholders in the

catchment maintained over a long period of time. Therefore encouraging initial involvement and on-going participation is vital. This means a range of opportunities are needed at any one time. Further, the opportunities must be structured in a way that makes it easy for individuals to join in and get on with the job.

- Landholders will act in the wider community interest if they are aware of issues and appreciate the off site implications. Information at the farm and paddock scale is essential in progressing from awareness to action. Time must be given for individuals to discuss and incorporate new issues into their current practices.

- Large-scale investment in natural resource management by most individual landholders is linked to the profitability of their business. Therefore investment must be made to continually improve business profitability in combination with natural resource enhancement. The two are not mutually exclusive.

- The ability of the community to make changes to the landscape and cope with change is enhanced if they can participate in information collection, sharing of this information, subsequent decision making and finally implementation of actions.

- Partnerships are needed if we are to achieve landscape change. These partnerships need to respect the potentially different perspective of each party in relation to catchment management. Lasting damage can be caused if one party enters the partnership with the single focus of only achieving their outcomes. Compromise is often needed.

The third Woady Yaloak Plan (2003-2007)

This document draws on past experience, existing approaches and processes that are delivering outcomes, and changing priorities to develop the next five years of actions. The actions are derived from consideration of the desired outcomes both from a catchment perspective *and* from the priorities identified in the various plans and strategies relevant to the Woady Yaloak area.

The catchment group has also examined the possible threats to achieving those outcomes and has identified indicators of success for each outcome (table 1).

Actions and time lines to achieve each of the outcome *and* address the anticipated threats are described for each of the four outcomes (tables 2 to 5).

Table 1: Desired outcomes of the Woady Yaloak Catchment Project (2003-2007), indicators of success and possible threats

Desired outcome	Seen by	Success measured by	Threats to achieving the outcomes

Viable businesses	A diversity of productive pursuits.
	
	Increased profitability.
	
	Infrastructure investment.
		Changes in 'enterprise' mix.
		
		Changes in disposable income and ability to match grant funding.
		
		Investment to keep enterprises productive.
			• Degradation of the resource base through:
			  • Pest animals, especially rabbits and foxes
			  • Pest plants, especially serrated tussock, gorse and spiny rush.
			  • Inappropriate grazing and cropping practices.
			• Ongoing access to high quality water for stock and domestic purposes because of:
			  • Restrictions on access to waterways for stock watering
			  • Limitations on water harvesting for off stream watering.
			• Failure to adopt best practice through:
			  • Inability to participate in skills development programs
			• Failure to capitalise on positive opportunities to create new businesses (eg plantation timber, carbon credits etc).

Strong communities capable of managing change	Inclusive processes to involve the community. Landholders with small and large holdings supporting each other to take positive action. Leadership arising from within the catchment. Partnerships with Government and other organisations. A spread of lifestyles with choices about their future.	Number and diversity of those involved in voluntary activities. Size of holdings of those participating. Situational leadership. Number and diversity of partners. Generational spread.	• Inability to conduct inclusive processes where individuals are invited to take responsibility, make decisions and share ideas. • No cohesive networking with small landholders in the upper catchment • Nobody being 'groomed' to take a future leadership role. • Partners who are only interested in achieving highly focussed outcomes related to their own program. • Not being recognised for what is being achieved.

Desired outcome	Seen by	Success measured by	Threats to achieving the outcomes
A natural environment that nurtures business viability whilst working within the capacity of the catchment	Enterprises conducted on land suitable and capable of sustaining the practice. Minimisation of 'off site' impacts from enterprises being conducted. Natural systems established that support biodiversity that in turn has a positive impact on business pursuits.	Area where landuse is matched to land capability. Increase in enterprise practice that is known to minimise off site impacts.	• Not knowing the sustainable limits of the resources in the catchment. • Not matching enterprise practice with land capability. • Cost of implementing on ground actions • Inability to establish a cause and effect relationship at the local level so meaningful action can be taken (eg salinity recharge and discharge, nutrient movement into waterways and groundwater, ecosystems that create biological control to help agricultural pursuits, drainage systems that minimise flooding and nutrient loss etc).
Protection and enhancement of the flora and fauna	A net gain of important flora and fauna in the catchment Reduce impact on flora and fauna from pest plant and animals and agricultural actions	Inventory change Management agreements	• Incomplete data set that allows for relevance and recognition at the local level. • Limited consideration of the importance of the flora and fauna when planning future land use. • Protection of flora and fauna will interfere with the operation of the farm business. • Cost of implementing on ground actions. • Protection activities are perceived as having a cost to the income generating potential of the farm business.

Table 2: Actions to overcome the identified threats and achieve the desired outcome of viable businesses

Outcome	Threats	Actions
Viable businesses	Degradation of the resource base through rabbits and foxes.	1. By 2004 map all warrens through NHG process, starting with the priority rabbit management plan areas, then systematic destruction of 20 ha of these warrens by 2007. 2. Provide an ongoing rabbit baiting program using Pindone. 3. Provide an ongoing fox baiting program using FoxOff.
	Degradation of the resource base through serrated tussock, gorse and spiny rush invasion.	4. Removal of 210 ha of gorse on private land by 2007. 5. Removal of gorse from 30 km of heavily infested waterways by 2007. 6. Keep the Woady Yaloak catchment free of serrated tussock and cape tulip through strategic spraying and revegetation. 7. Removal of 450 ha of spiny rush from agricultural land and replacement with more productive salt tolerant species by 2010.
	Degradation of the resource base through inappropriate grazing and cropping practices.	8. Conduct annual crop and livestock discussion groups focussing on soil health (fertility, acidity and soil structure) and for pastures perennial species retention. 9. Construct 100 km of Landclass fencing by 2007, located on highly susceptible land (identified through NHG plans). 10. By 2004 map all active erosion through the NHG process, then systematic treatment of 20 ha by 2007.
	Access to high quality water through restrictions on waterway access and catchment water harvesting (dams).	11. Fencing & regeneration of 100 km of waterways to prevent stock access, combined with the installation of off stream watering systems to compensate for the loss of waterway access by 2007. Priority given to the Kurac-a-ruk, Little Woady and Woady Yaloak Rivers. 12. Construct 20 creek crossings in actively eroding waterways (caused by stock and machinery access) by 2007. 13. Map the sub-catchments and water harvesting areas to provide information to discuss future water allocation issues by 2005.
	Failure to adopt best practice because of lack of participation in skills programs.	14. Conduct annual crop and livestock discussion groups, focussing on animal and crop productivity.
	Failure to capitalise on positive opportunities to create new businesses.	15. Negotiate large-scale private timber planting agreements for groups of landholders in the catchment, where trees are cited in locations that deliver salinity, erosion and weed benefits by 2007. 16. Negotiate greenhouse and carbon credit arrangements where benefits are realised by the catchment group and individual landholders within 5 years by 2007.

Table 3: Actions to overcome the identified threats and achieve the desired outcome of a strong community capable of managing change

Outcome	Threats	Actions
Strong community capable of managing change	Inability to conduct inclusive processes.	17. Continue support for the neighbourhood group process until 2007. As a minimum conduct one planning session and one review session with each group per year. 18. Continue with neighbourhood group gatherings every 3 months, to allow groups to present works undertaken and discuss issues. 19. Conduct an annual general meeting each year where executive committee members are elected from each landcare group.
	Nobody being groomed to take on leadership roles.	20. Conduct a leadership / skills development program for a small group of people within the catchment by 2005.
	External partners who are only interested in achieving highly focussed outcomes related to their own program.	21. By 2003, establish the Woady Yaloak executive committee as a group who can deliver specific program outcomes to partners. 22. By 2003, sign three to five year agreements with various partners to deliver specific targets. 23. By 2005 attract at least four other non-traditional partners through philanthropic trusts and private industry. 24. Create a non grants linked revenue of $20,000 per year by 2005.
	Not being recognised for what is being achieved.	25. Continue to produce annual reports and quarterly newsletter until 2007. 26. Create a Woady Yaloak Catchment Group Website by 2004. 27. Seek opportunities to present Woady Yaloak achievements to other groups who visit the catchment of externally at conferences

Table 4: Actions to overcome the identified threats and achieve the desired outcome of a natural environment that nurtures business viability whilst working in the capacity of the catchment

Outcome	Threats	Actions
A natural environment that nurtures business viability whilst working in the capacity of the catchment	Not knowing the sustainable limits of the resources in the catchment	28. By 2004 generate land use and water capability maps for use on GIS.
	Not matching enterprise practice with land & water capability.	29. From 2004 onward, use the land and water capability overlay in NHG planning exercises.
	Inability to establish a cause and effect relationship at the local; level so meaningful action can be taken.	30. Create maps suitable for use on the GIS, which clearly indicates where in the landscape and to what extent recharge control is appropriate by 2004. 31. Implement appropriate recharge control measures over half of the designated priority recharge areas by 2007. 32. By 2005 describe best management practices to reduce inflows of nutrients (especially nitrogen and phosphorus) into waterways. 33. By 2003 document the impact old existing tree planting has had on ecosystem development 34. By 2007 demonstrate the positive causal links between eco-system development and agricultural systems.
	Cost of implementing changed management practices.	35. Negotiate cost sharing arrangements with government and others for various public and private good programs, as the scale of the task becomes evident. 36. Discussion with Golden Plains Shire on opportunities for small landholders to receive an incentive to undertake works (eg rate rebate). 37. Facilitate access to a labour scheme to assist with large scale re-vegetation planting.

Table 5: Actions to overcome the identified threats and achieve the desired retention and enhancement of flora and fauna.

Outcome	Threats	Actions
Retention and enhancement of flora and fauna	Incomplete data set that allows for relevance and recognition at the local level.	38. By 2003 (using trained members of the community) 'groundtruth' the current ecological vegetation classes in the catchment (for accuracy and quality) to a 1:10,000 scale, that can be used for local group planning (neighbourhood group plans).
	Limited consideration of the importance of the flora and fauna when planning future land use.	39. From 2004 onward, include the local ECV overlay in all NHG planning exercises. 40. By 2004 have an agreed process between the Golden Plains Shire and the catchment group on planning and permit issues related to vegetation management.
	Protection of flora and fauna will interfere with the operation of the farm business.	41. By 2007 have maintenance strategies in place for 50% of all the endangered and vulnerable EVC's mapped within the catchment. 42. Improve the quality of 50% of all the endangered and vulnerable EVC's mapped within the catchment by 2007. 43. Double the area of vegetation on private land in the catchment by 2007, using a combination of indigenous vegetation and commercial timber.
	Limited practical examples of the benefits from biodiversity enhancement activities.	44. Conduct joint research projects with other organisations to demonstrate the productive benefits from biodiversity enhancement.
	Cost of implementing on ground actions.	45. Negotiate cost sharing arrangements with government and others for various public and private good programs, as the scale of the task becomes evident.

Targets, costs and cost sharing

The quantity of work to be achieved over the next five years, the cost associated with these programs and suggested cost sharing arrangements are summarised. These estimates are based on the current understanding of the extent of the issues and may change once additional studies are undertaken.

Implementation of the five year plan would result in the:

- Destruction of 20 ha of warrens in the catchment.
- Removal of 210 ha of gorse from private land.
- Removal of gorse from 30 km of heavily infested waterways.
- Catchment remaining free of serrated tussock and cape tulip.
- Construction of 100 km of land class fencing on highly erodible land.
- Treatment of all active erosion areas in the catchment.
- The fencing and regeneration of vegetation along 100 km of waterways, combined with off stream watering points.
- Construction of 20 creek crossings in actively eroding areas.
- Revegetation of 450 ha of saline discharge land
- Establishment of trees over half (2100 ha) of the designated priority recharge areas through indigenous and private forestry agreements.
- Implementation of maintenance strategies for half of the endangered and vulnerable EVC's, mapped within the catchment.
- Quality of 50% of the endangered and vulnerable EVC's within the catchment being actively improved.
- Doubling of the area of vegetation on private land in the catchment.

To achieve these output, plus additional outcomes such as improved ECV mapping, detailed waterway condition assessment, recharge location maps, nutrient best management practice guidelines and ongoing productivity groups, requires integrated program support. The Woady Yaloak Catchment Group have this mechanism in place and are proposing program support is shared between each of the program beneficiaries, *on the basis of the financial contribution to on ground and mapping work*.

The cost sharing under traditional 'program' headings is presented (table 6), including the co-ordination contribution from each program. Details of each program costing are presented in appendix 1:

Table 6: Estimated average program costs per year for the next 5 years

Program	Partner funding ($/yr)	Landholder cash contribution ($/yr)	Landholder in kind contribution ($/yr)
Rabbits	11,400	9,000	2,400
Weeds	60,200	26,900	9,400
Productivity	26,500	0	3,000
Erosion	27,600	25,000	3,800
Waterways	160,600	37,000	29,100
Salinity	193,900	46,600	79,200
Nutrients	4,000	0	200
Biodiversity	101,700	56,200	63,800
TOTAL	**585,900**	**200,700**	**190,900**

Is this outcome possible?

In the past decade the Woady Yaloak catchment group have attracted close to $1.6 in private and public support. This has been matched by $1.5 million in landholder cash and an additional $1.0 million from 'in kind' support, primarily labour.

The proposed program would increase activity by about 50% above historic levels. We believe this is within the capacity of the landholders to match the funding incentive with their own cash (and in kind contribution).

Appendix 1 – Detailed program costings (2003-2007)

Program	Action	Expenditure over 5 years						
		On ground works / investigations	**Group co-ordination**	**TOTAL external funding**	**Program cost share (%)**	**Landholder cash contribution**	**Landholder in kind contribution**	**TOTAL landholder contribution**
Rabbits	1. Warren mapping and destruction of 20 ha.	43,000			50			
	2. Pindone program.	0			0			
	3. Fox – off program.	0			0			
TOTAL		**43,000**	**14,130**	**57,130**		**45,000**	**12,150**	**57,150**
Weeds	4. Remove 210 ha of gorse.	88,750			50			
	5. Remove 30 ha gorse from waterways.	129,375			75			
	6. Catchment remains free of serrated tussock and cape tulip.	8,250			75			
TOTAL		**226,375**	**74,390**	**300,765**		**134,625**	**47,120**	**57,150**
Productivity	8. Discussion groups – soil health.	75,000			0			
	14. Discussion groups – productivity.	25,000			0			
	34. Positive links between biodiversity and productivity.	0			0			
	42. Joint research projected into biodiversity – productivity.	0			0			
TOTAL		**100,000**	**32,860**	**132,860**		**0**	**15,090**	**57,150**
Erosion	9. 100 km landclass fencing.	100,000			50			
	10. Map active erosion and treat 20 ha.	3,750			50			
TOTAL		**103,750**	**34,090**	**137,840**		**125,000**	**18,810**	**57,150**

Program	Action	Expenditure over 5 years						
		On ground works / investigations	**Group co-ordination**	**TOTAL external funding**	**Program cost share (%)**	**Landholder cash contribution**	**Landholder in kind contribution**	**TOTAL landholder contribution**
Waterways	11. Fence to protect 100 km waterways (both sides).	502,500			75			
	12. 20 creek crossings.	52,500			75			
	13. Map water harvesting areas.	30,000			0			
	28. Landuse and waterway assessment maps.	19,250			0			
	TOTAL	**604,250**	**198,560**	**802,810**		**185,000**	**145,310**	**57,150**
Salinity	30. Recharge maps.	30,000			0			
	7. Remove and replace 450 ha of spiny rush with salt tolerant plants.	140,550			75			
	31. 1050 ha recharge control	559,125			75			
	TOTAL	**729,675**	**239,780**	**969,455**		**233,225**	**395,958**	**57,150**
Nutrients	32. Best management practices for nutrients	15,000			0			
	TOTAL	**15,000**	**4,930**	**19,930**		**0**	**960**	**57,150**
Bio-diversity and revegetation	36. 1:10,000 scale groundtruthing of EVC	22,500			0			
	39. Maintenance strategies for 50% of endangered and vulnerable EVC's.	45,000			75			
	40. Improve quality of 50% of endangered and vulnerable EVC's.	60,426			75			
	41. Double area of vegetation on private land, though indigenous and commercial plantings.	254,779			75			
	TOTAL	**382,705**	**125,760**	**508,465**		**280,920**	**318,950**	**57,150**
	GRAND TOTAL	**2,204,755**	**724,500**	**2,929,255**		**1,003,771**	**954,350**	**1,958,121**