NATURAL HERITAGE TRUST
Project Final Report

Office Use Only
State Project No.

.....
NHT Project No.

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1. (a) Project Administration

Project Title (Use the same title as in original project application)	Eradication of African boxthorn and horehound – Coal Valley		
Name Of Organisation	Coal Valley Landcare (Committee of Coal River Products Association Inc)		
Contact Address	C/- N. Mendham, PO Box 22 Richmond 7025		
Project Manager	Mr Todd Hubbard	**Ph: 6226 2598**	**Fax: 6226 2642**

		Month	Year		Month	Year
Project Duration	Actual Start	05	/98	Actual Finish	12	/02

1. (b) Total Project Funding Details

Please provide information over the life of the project on the actual financial and in-kind contributions of the various stakeholders in the project, as set out below (in-kind employment contributions, operating costs and capital costs should be calculated according to the application guidelines that you used for your original funding application).

If you have unspent funds or retain assets these will have to be accounted for.

	Proponent Contribution (Funds & In-kind)	Other Contributor 1* (Funds & In-kind)	Other Contributor 2* (Funds & In-kind)	NHT Funds	Total Project Funds
Approved	49100			67850	116950
Received					
Paid employment costs (a)				44782	
Operating costs (b)				22625	
Capital costs (c)					
Expended (a+b+c)				67407	
In-kind employment	49100				
Unspent				443	
TOTAL	49100			67850	116950

*** Provide names of other organisations contributing. 'Other Contributors' includes State and Local Government, Sponsors and other organisations. You should only count contributions that are eligible to be matched with NHT funds.**

2(a). Describe the issues or problems addressed by the project

Provide a brief summary of the issues or problems that your project tackled, what you did in your project to resolve these and how well it worked.

The aim of the project was to eradicate the serious environmental and agricultural weeds African boxthorn (*Lycium ferocissimum*) and horehound (*Marrubium vulgare*) from areas of planted and remnant native vegetation, and from farmland in the Coal Valley, SE Tasmania. Landholders (92) were contacted (see attached letters), their properties surveyed and mapped (see examples attached) for the weeds, and control measures implemented. Maps used were the Tasmanian 1:25,000 series, with larger scale plans or sketch maps of each farm used for detailed work.

It became apparent that eradication of horehound was not feasible, due to difficulty of spraying in the situations it frequented (rocky banks, steep slopes, around yards) so an integrated strategy combining biological control with spraying and grazing was implemented. The horehound plume moth was reared and released by the Tasmanian Institute of Agricultural Research (Dr John Ireson's group) with the aid of Landcare group funds and assistance. Ten weed infested areas, fenced off from stock as refuges, were used for initial release throughout the valley, and populations monitored. The moths have spread over most of the valley and are providing significant control.

Boxthorn was controlled mainly by spraying, with a combination of glyphosate, Brushoff and Pulse penetrant proving most successful. The Project Manager, Mr Todd Hubbard, worked with the landowners using his utility mounted sprayer. Some of the larger thickets were attacked with an excavator first, with spraying to follow on regrowth. While we have not eradicated the weed yet, we have made significant progress, and compared to the catchments on either side of the Coal Valley, now have the weed largely under control. The task proved very large, with the following time allocations needed:

Properties with no weeds, or controlled previously:	12
Properties requiring 1-4 hours work:	19
Properties requiring 6-8 hours work:	35
Properties requiring 2-6 days work:	24
Total properties	**90**

As well as most of the larger properties in the valley, spraying was conducted around Richmond village, where heavy infestations were present, and along most of the roads in the valley with any significant numbers of the weed. The local Councils assisted by provision of some funds and a worker to assist the manager

Boxthorn is mainly found along fence lines and around larger remnant trees, where birds roost and deposit seeds in their droppings after consuming the red berries.About 90% of the infestations treated were in these environments, another 3% within new shelter belts, about 6% along roadsides, and only 1% scattered in a few large paddocks.

One of the major aspects of the project has been making farmers aware of the severity of the problem, and that they can do something about it. Working with each landowner on the initial visit, then subsequently to control regrowth, plus advising them on methods, has empowered most to continue the control program themselves into the future. The implementation of the SE Weed Strategy since our project commenced has also helped to raise awareness, as boxthorn is now being treated as a priority weed.

2(b). Project Performance against objectives/milestones.

Please provide information on the overall achievements of your project against your planned objectives and milestones. Indicate important achievements you have made in addition to your planned objectives. In some cases you may have had difficulties, or were unable to meet all, or some of your objectives. This should not be regarded as a failure. Please indicate if this has occurred and give an assessment of factors contributing to the difficulties (eg climatic conditions, group dynamics, late arrival of funds, inappropriate planning, local government regulations).

ACHIEVEMENTS AND IMPEDIMENTS

What did you set out to do? (List the objectives stated on your funding application)	Comment on the extent to which your objectives were met.	How did you measure your achievements, eg photos, surveys, attendance at seminars.
Eradicate boxthorn and horehound	Eradication is an on-going process, management of regrowth and new seedlings will be needed for many years.	Records of control success, plus followup visits, photos (see attached)
Mapping of infestations using GPS	Properties are small enough for maps to be developed which do not require GPS, but rely on landowner observation.	Individual bushes and thickets can be marked on large scale farm maps (see attached examples)
Spraying infestations of horehound	Biological control was more practical and should be more effective in the long term on the more inaccessible areas, with spraying where feasible to supplement, and grazing as appropriate.	Observations, records in collaboration with TIAR scientists.
Spraying infestations of boxthorn	Generally successful, where conditions were suitable and followup visits made. The program has taken much longer than initially envisaged, due to very limited windows for spraying when the plants are not stressed by drought and it is not too windy or wet for spraying.	Observations, photos, records.
Protect historic hawthorn hedges around Richmond township by removing boxthorn	Boxthorn sprayed in winter when hawthorn leafless, strategy was successful.	
Promote catchment-wide awareness of the need for weed management, particularly in remnant bush and the increasing amount of revegetated areas where stock grazing pressure has been reduced or removed.	Strategy of working with all landholders and through Catchment Committees has been successful in raising awareness. The SE Weed strategy has assisted greatly, extending our work to neighbouring catchments.	Leaflets and mailouts (examples attached) have been used.
Protect remnant vegetation and revegetated areas from boxthorn invasion	About 10 % of area of the properties treated (on average) is in remnant vegetation or revegetation (shelterbelts etc), and this has been included in the work for particular attention.	Observation, followup work.

3(a) On-ground Outputs (total outputs achieved since the start of the project. Use original application to supply whole of project targets)

Activity	Total outputs achieved	Project Target
Native vegetation/habitat		
1) Total area of native vegetation works (Should equal 2) + 3) + 4)	ha	ha
2) Remnant protection works (remnants in relatively good condition)	450 ha	ha
3) Remnant rehabilitation works (including restoring links)	ha	ha
4) Revegetation works (predominantly in cleared areas)	450 ha	ha
5) Number of plants (not seed) planted.	No.	No.
6) Length of direct seeding lines	km	km
7) Length of protective fencing	km	km
8) Area of voluntary management agreements established	ha	ha
9) Covenanted areas established to protect remnant native vegetation	ha	ha
10) Area of works that protect/enhance threatened species/community habitat	ha	ha
11) Area of 10) protected by agreements as in 8) or 9)	ha	ha
Waterway or water body management		
12) Waterway protected by fencing (usually both sides or divide by 2).	km	km
13) Length of fenced waterway revegetated.	km	km
14) Benefits downstream of waterway physical works (bed and banks,etc).	km	km
15) Benefits downstream of in-stream habitat works.	km	km
16) Benefits of environmental flows or water provided for wetlands.	ha/km	ha/km
17) Native fish restocking – number of fingerlings.	No.	No.
18) Native fish restocking – age of fingerlings.	months	months
19) Native fish restocking – native to .the area?	Yes/No	Yes/No
20) Other beneficial waterway activities Specify type:	km	km

21) Pollution Control

Target Pollutants	Main Source	Initial Levels	Current levels	Target levels	% Improved
					%
					%
					%
					%
					%

Activity	Total outputs achieved	Project Target
Control of Rising Watertables)		
22) Target area for ground water pumping systems installed	ha	ha
23) Area drained to control rising water tables	ha	ha
24) Area of planting/establishment in recharge areas	ha	ha
25) Area of planting/establishment in recharge areas	ha	ha
26) Using deep-rooted perennial crops/pastures.	ha	ha
27) Using local native species	ha	ha
28) Using non-local native species	ha	ha
29) Using exotic species	ha	ha
Water-use efficiency improvements	On-farm efficiency? ❐	Or Off-farm efficiency? ❐
30) By recycling treated effluent	ML %	ML %
31) By recycling drainage water	ML %	ML %
32) By use of wastewater	ML %	ML %
33) By use of stormwater	ML %	ML %
34) By more efficient water management systems	ML %	ML %
35) By refurbishment of water supply channels	ML %	ML %
Stabilisation of wind or water erosion – soil condition		
36) By revegetation (including fencing out).	ha %	ha %
37) By control of grazing pressure.	ha %	ha %
38) By use of cropping technologies.	ha %	ha %
39) Gully erosion control.	ha %	ha %
40) Other Specify:	ha %	ha %
Improving the use of land within its capability		
41) Area of land assessed for capability.	ha	ha
42) Area of land to be managed according to capability.	ha	ha
Improved weed and pest management		
43) Estimated area of effective weed control (including aquatic)?	9200 ha (total farm area)	90 farms, average 102 ha
44) Estimated area of effective vertebrate pest control	ha	ha
45) Other specify:	ha	ha
Farm Forestry for demonstration or trial purposes		
46) Number of landholders expected to be involved?	No.	No.
47) Area of native species for wood production	ha	ha
48) Area of native species primarily for non-wood production:	ha	ha
49) Area of exotic species for wood production?	ha	ha
50) Area of native forest for production?	ha	ha

3(b) Other Outputs

Achievements (product or service)	Description	Quantity	
		Total outputs achieved	**Project Target**
Education and awareness (including adoption of best management practices)			
Type of publication (report, brochure, book) or activity (demonstration, field day) and topic/name of report	Target audience and location	Quantity (eg no. of copies, no. of field days, ..)	
African boxthorn leaflet (with DPIWE and catchment groups) (attached)	Landowners in SE Tas	Leaflet available to all interested groups	
Two circulars to landowners (attached)	landowners in the Coal Valley	90 plus.	40 landowners
Training			
Purpose and type of training activity (include name of course if applicable)	Target audience and location	Number of courses/workshops and number of people trained (and target for project)	
TAFE chemical handling and safety course	Project Manager	1	1
Planning			
Name of plan or feasibility study (including project development and marketing strategies) and area of strategy (eg. regional, catchment, subcatchment)	Purpose of plan. Indicate priority issues identified (eg groundwater management, nutrient management, river restoration, salinity, farm forestry feasibility studies etc)	Number published (ie no. of copies produced)	
SE Weed Strategy (developed by DPIWE and consultants, partly in response to our project)	Priority weeds identified, and strategy to control them developed		
Monitoring			
What is being monitored? (eg water quality, gully erosion)	How many sites, how often? Indicate major activities undertaken (eg surveying, mapping, soil sampling) and at what stages.	Number of people who participated No. of sites	No. of people
Environmental and agricultural weeds (boxthorn and horehound)	Surveying, mapping, followup control and observation.	90 (farms) plus Richmond village and roadsides in the valley	150 approx including community groups, local government workers, students
Resource inventory			
Purpose of inventory	Indicate location. How many sites, how often? Is data to be included on Geographical Information Systems?	Area inventoried (ha) No. of sites	Area covered (ha)

3(c) Employee Information and Outputs: Indicate how many salaried staff and/or contract staff were employed in your project, and the length and level of their employment. For each person, indicate the outputs they were responsible for delivering, in order of importance.

	Salaried staff		Contractors or consultants	
	Total achieved	**Project Target**	**Total achieved**	**Project Target**
Number, description, length of employment			0ne (project manager) paid per hour as required over 4 years, total 1100 hours approx.	
Outputs (in priority order)			Conducted the surveying and control measures with	

			assistance of landowners and others.	

4. Participation

How many people have been actively involved in your project (include employees and volunteers)?

150

Which stakeholder groups have been involved in the project? List major groups who contributed to the technical, practical, financial or administrative aspects of the project, eg community groups, schools, tertiary institute, research organisations, local government, State Government, business, Indigenous groups.

Category	Name of Group	Type of Involvement	Number of Participants
Landowners	Coal Valley	Involved with survey and control measures	90
Landcare group	Coal Valley Landcare	Planning and admin	5 (plus others included above)
Catchment groups	Coal and Pittwater Catchment committees	Planning, awareness raising, extension to neighbouring catchments.	18

5. Implementing Regional, Catchment and Local Area Planning

In what way has your project contributed to the development or implementation of a regional strategy or plan?

Our project supported the development of the Coal River Catchment Strategy, and the Pittwater Catchment Implementation Strategy, both of which recognised the importance of controlling environmental weeds as part of a healthy catchment. It also supported the development of the SE Weed Strategy Plan (2001), showing that a practical, on-ground program could deliver results for control of priority weeds. The Weed Strategy has in turn made our project easier, as it helped raise awareness of the seriousness of the weed infestations and consequences of failure to control them.

6. Use of Project Results

Has your project had any benefits for any other groups? If so, by whom and in what way. How has your project been publicised. Attach copies of media coverage or other publicity. Has acknowledgment been given to the Natural Heritage Trust? If you have a photographic record please provide copies.

The main other groups benefitting are those in neighbouring catchments Sorell, Iron Creek, Orielton, reached via catchment newsletters and a field day. The NHT support has been acknowledged in leaflets sent to our landowners. Examples of our control and environments targetted are enclosed as photos.

7. Program Administration

Please provide comments on administration of your project and your dealings with relevant government agencies.

The Tasmanian NHT Unit has been very understanding of the delays in implementation of our project due to drought and limited conditions suitable for control measures. We have had no administrative difficulties, and the support from DPIWE in development of the SE Weed Strategy has been appreciated.

8. Future Action

How is your group planning to maintain the project after funding has ceased?

Landowners are now aware of the need to continue followup weed control, and to exercise vigilance with these and similar weeds on their property. The project manager has built up a network of contacts and is ready to use his equipment in controlling regrowth or other weed management problems. The

Landcare group can supply expertise and chemicals for those wishing to undertake their own work.

Do you intend to seek further Natural Heritage Trust funding, or funding from other sources to undertake further activities?

We plan to undertake further work in conjunction with the Catchment Committee, preferably via the devolved grant process. Other weeds and other NRM issues await our attention, following on from our experience and activity over the last 11 years on a wide range of issues.

9. Group Declaration:

I declare that I am an authorised representative of the recipient organisation, that the information given on this form is complete and correct and that expenditure of moneys paid under the Financial Assistance Agreement has been solely upon the project and in accordance with the terms of the Agreement and its Conditions.

Name (please print)	Dr Neville J Mendham		**Name (please print)**	Mr Robert Morey	
Position in Organisation	Secretary	**Phone**	**Position in Organisation**	Chairman	**Phone**
Signature		**Date**	**Signature**		**Date**

Natural Heritage Trust

Final Audited Financial Statement

Project No.

Project Title	Eradication of boxthorn and horehound, Coal Valley
Name of Organisation	Coal Valley Landcare (Committee of Coal R Products Association Inc)
Project Start Date	May 1998
Project End Date	Dec 2002
Financial Acquittal for the period (Dates)	___/___/____ to ___/___/____

	NHT funds
Income	
A. Unspent Commonwealth funds received for project prior to NHT in 1996/97	
B. Natural Heritage Trust Funds for the period 01/07/97 to 30/06/98	1500
C. Natural Heritage Trust Funds for the period 01/07/98 to 30/06/99	58350
D. Natural Heritage Trust Funds for the period 01/07/99 to 30/06/00	8000
E. Natural Heritage Trust Funds for the period 01/07/00 to 30/06/01	
F. Natural Heritage Trust Funds for the period 01/07/01 to 30/06/02	
G. TOTAL INCOME RECEIVED (A + B + C + D +E + F)	**67850**
Expenditure	
EMPLOYMENT COSTS	
Salaries/wages	
Salaries/wages on-costs	
Consultants/contractors	45332
Other	
OPERATING COSTS	
Travel	
Equipment hire/lease	
Other	22518
CAPITAL COSTS (only items over $5,000 - please itemise)	
H. TOTAL EXPENDITURE INCURRED	**67850**
UNSPENT FUNDS ON HAND (G – H)	**0**

AUDIT DECLARATION

I hereby certify that all funds paid under the Financial Assistance Agreement have been expended or incurred by way of expenditure solely upon the project and in accordance with the Terms of the Agreement.

Signature of Authorised auditor for the recipient organisation	(Interim audit only: final to be submitted Jan 03
Printed name	John R Cleary
Name of Auditor's Organisation	Colonial Accountancy
Contact Telephone Number	03 6260 2322
Date	20 December 2002

NOTE: Please complete one of these forms for each project receiving NHT funds

Rocky hillside with remnant vegetation, where birds roost to spread boxthorn seeds: Laburnum Park, Campania.
Boxthorn killed by spraying 6 months previously

Dam bank with scattered boxthorn, Tony Byrne, Cambridge.

Pittwater foreshore with coastal vegetation and boxthorn, along old railway embankmentTony Byrne, Cambridge.

Dense boxthorn infestation in fields and along roadside, around Richmond historic village, Prospect House, Middle Tea Tree Road.

Boxthorn along Brinktop Road leading into Richmond village.

Old hawthorn hedge infested by boxthorn, with poppy crop at Strathayr, Richmond.

Boxthorn sprayed, removed and stacked for burning, between irrigated cropland (potatoes) and Coal River, Carrington, Richmond. Note new boxthorn seedlings in foreground requiring control.

Scattered boxthorn in open field at Strelley, Richmond. Grazing by sheep plus cultivation and cropping normally prevents boxthorn from establishing in this situation.

Eradication of African boxthorn and horehound – Coal Valley

Boxthorn infestation along fenceline, University Farm, Cambridge. The berries are eaten by birds and the seeds spread wherever they roost. The large spines damage animals, people and vehicle tyres.

Typical boxthorn habitat, showing control achieved by spraying: steep bank, Campania House, above Coal River floodplain.