Matchstick Banksia Recovery Plan

Annual Report 1998

Project number 349

by Greg Durell

for

The Matchstick Banksia Recovery Team

Department of Conservation and Land Management
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SUMMARY

Funding from Department of Conservation and Land Management continued in 1998, allowing for the continuation of previously implemented recovery actions for the long term viability of eleven populations of the Matchstick Banksia *(Banksia cuneata)*.

Implementing the following recovery actions continued in 1998:

• Acquire land for conservation of *B. cuneata*.	Partially completed.
• Maintain rabbit proof fencing on major populations	Ongoing.
• Rabbit control baiting programmes on all populations.	Ongoing.
• Control salinity on populations at threat.	Ongoing.
• Improve the habitat of populations.	Ongoing.
• Collect, if necessary seed for permanent storage.	
• Monitor and survey populations.	
• Seedling planting	Continue as per species translocation proposal.

In 1999, it is proposed to continue the following recovery actions funded by Environment Australia:

- maintain existing rabbit proof fences, 1080 baiting for rabbit control and eradication at population No 1, 2, 5, 6, 8 and 10;
- Study Banksia cuneata seed germination and survival of the seedlings after wildfire at Population No. 7;
- Monitor numbers and condition of all Banksia cuneata populations on an annual basis and compare with 1995 and 1997 population studies; and
- Maintain adequate seeds in storage at the Threatened Species Seed Centre;

In addition, the following CALM funded recovery actions, based on the draft species recovery plan will continue:

- holding a Recovery Team meeting in April, 1999
- continue with land acquisition proposals;
- monitor the effect of high water usage trees at Population No. 8 (Lazeaway) to control rising ground water level;
- enhance population 1,5,8 and 10, if seedlings are available in 1999;
- enhance populations as described in the *Draft "Translocation proposal for Banksia cuneata"*;
- monitor, re-plant and report on the 1995-1998 establishment of seedlings at the introduction site on Stacey's property;
- complete one media release highlighting the recovery programme of *B. cuneata*;
- install ground water table piezometers at Simpson's (Quairading 4) to monitor ground water effects;
- *phosphite* control at Population No. 8 (Lazeaway); and
- provide seedlings to enhance the 'Cuneata Park' at Quairading.

1 INTRODUCTION

1.1 RECOVERY PLAN ACTIONS PROGRESS SINCE DECEMBER 1997.

This Annual Report summarises the status of on going recovery actions described in the draft Recovery Plan for Matchstick Banksia (Stace and Coates 1991). The numbered headings in brackets throughout this report refer to recovery actions described in the draft species Recovery Plan.

1.1.1 (2.2.1) Recovery Team

A recovery team meeting was held on 11 February 1998 at the Narrogin CALM Office. This meeting was held in conjunction with the recently established Narrogin District Flora Recovery Team. It is intended to incorporate meetings of these two teams along with the Grevillea scapigera recovery team to maximise efficiencies and expertise. Attending this meeting was the Environment Australia officer Ms Katrina Jensz.

The recovery of *B. cuneata* was also discussed at the District Recovery Team level in April 1998, July 1998 and October, 1998.

The current recovery team members who have input into the species recovery are:

1) Grant Hansen representing roadside conservation interests of Main Roads WA and local government,

2) Darralyn Ebsary represents central portion of the District in respect to Land Conservation District Committee's,

3) Gwen Gath represents the South Central Naturalist Club,

4) Jeanette Buegge represents the northern portion of the District in respect to Land Conservation District Committee's,

5) Michael Buegge represents the 14 Local Government authorities within the Narrogin District,

6) Judy Williams represents the Wildflower Society and the Western Land Conservation District Committee's,

7) John Simpson represents the interests of private landowners within the District. (John has two populations of threatened flora on his property),

8) Brigitta Wimmer represents the interests of Environment Australia,

9) Greg Durell represents the Narrogin District of the Department of Conservation and Land Management and other controlling government agencies.

The following professional advisers advise and attend meetings when able:

1) Dr Kingsley Dixon, Director of Divisional Plant Science Kings Park and Botanic Gardens;
2) Dr Andrew Brown, Scientific Adviser (Flora) Western Australian Threatened Species and Communities Unit, C\- CALM WATSCU, Woodvale; and
3) Brett Beecham, Regional Ecologist CALM Wheatbelt Region

Other Technical advisers consulted as a matter of course during the recovery process include:

1) Dr David Coates, Principal Research Scientist (Genetics) W.A. Herbarium;

2) Dr Ken Atkins Principal Botanist Nature Conservation Section, CALM Como; and

3) Ms Sue Patrick Senior Research Scientist W.A. Herbarium.

2 RECOVERY PLAN AND FUNDING

This recovery programme commenced in 1993, operating under the direction of a Recovery Team with the purpose of implementing the draft Recovery Plan *Recovery Plan for the Matchstick Banksia (Banksia cuneata)* by Helen M. Stace and D. J. Coates The Department of Conservation and Land Management 1991.

A review of this species was undertaken by the Recovery Team in October 1997. From this review, Environment Australia is prepared to fund those specific scope items described above with the Department of Conservation and Land Management funding other ongoing recovery actions.

3 IMPLEMENTING SCOPE ITEMS.

3.1 (2.2.2) ACQUIRE LAND FOR CONSERVATION OF *B. CUNEATA.*

3.1.1 Population number 6, reserve number 21459 and 13002. Quairading Townsite Reserve.

CALM continues to pursue this matter with the Shire of Quairading and the Department of Land Administration for revesting as a nature reserve. Little progress was achieved and the issue is still to be resolved.

3.2 (2.2.3) RABBIT CONTROL, MAINTAIN RABBIT PROOF FENCING AND RABBIT BAITING PROGRAMMES.

Rabbit baiting of all populations occurred twice during Autumn 1998. Rabbit numbers have declined by regular baiting. The rabbit proof fences are working well, restricting rabbit numbers in fenced populations.

3.2.1 1080 baiting of rabbits.

The status of rabbit numbers from on-site inspections and landowner inspections are as follows:

population number 1 (Quairading 1) and Stacey Translocation site. Rabbits in low numbers. No control necessary,

population number 2 (Quairading 2) rabbits in moderate/ high numbers Rabbit control required to continue,

population number 4 (Brookton 3) rabbit numbers low. Annual inspection of fence and Phostoxin control of burrows

population number 6 (Quairading 3) rabbits in low/moderate numbers. require follow up control to prevent damage to germinating seedlings,

population number 7 (Quairading 4) rabbit numbers moderate. Control annually,

population number 8 (Pingelly 1) rabbit numbers low/moderate. Control annually,

population number 10 (Quairading 5) rabbits still in moderate numbers. require follow up control, and

population number 3 & 5(Brookton 1 and 2), 9 (Pingelly 2) and 11 (Brookton 4)rabbit numbers low. No control necessary.

3.2.2 Future rabbit control measures

The following future rabbit control measures are considered necessary:

population number 2 1080 trail during autumn;

population number 4 Annual inspection and maintenance of fence with Phostoxin control of internal burrows;

population number 6 *Pindone*® treatment on two occasions during Autumn;

population number 7 1080 control internal and externally of the fenced area annually;

population number 8 1080 control and maintenance of the fenced area once during autumn; and

population number 10 1080 control internal and external of the fenced populations during autumn.

3.2.3 Monitoring rabbit activity

Rabbit activity is declining as a result of 1080 control and fencing at each population. This has been particularly evident at population no 7, 8 and 4 (where recruitment is now beginning to occur within the fenced area). Annual baiting of rabbits at listed populations is still required because without baiting rabbit numbers will increase again due to the rabbit suitability of the soil type and the calici-virus still being largely ineffective within the Matchstick Banksia's distribution range (farmers comments and observations).

Rabbits continue to be difficult to control at Population No. 10

3.2.4 Fencing populations.

Fencing three 3 individuals at population 11 (Mill's) was completed in 1998.

3.3 (2.2.3) Water and salinity control

3.3.1 The buffer planting adjacent Population No. 8 is established successfully with trees now 2 metres tall. A solar pump continues to pump excess water and will continue until the buffer trees begin to lower ground water levels.

3.3.2 Ground water problems at Population No. 7 (Simpson's) continues to be a concern. Rising ground water may be causing the decline and may require corrective management. The Waters and Rivers Commission commissioned a study on ground water effects on this population. A report was completed entitled Proposed piezometer sites to determine the effect of ground water on the health of the declared rare flora, *Banksia cuneata* population 7 Quairading. Hazli A. Koomberi Water and Rivers Commission. Hydrogeology Report No. HR 108 April 1998. This report recommends the establishment of a piezometer field within the environs of the population to monitor ground water levels.

It is anticipated this recommendation will be implemented during 1999.

3.4 HABITAT ENHANCEMENT

3.4.1 (2.2.8.1) Stacey's introduction site and population establishment property

In July 1998, 70 *B. cuneata* seedlings survive. supplementary watering of 1997 planting's continued over the 1998 summer months. The first (1995) *B. cuneata* planting's have flowered and set seed. Significant flowering occurred again in spring 1998 with considerable seed set observed.

Early planting (April) was undertaken this year with the aim of earlier establishing plants to develop root systems prior to the summer, thus reducing the requirement for supplementary watering.

Supplementary species continue to grow.

3.4.2 1998 enhancement planting at populations.

In 1998, 40 *B. cuneata* seedlings were planted at Population No. 7, and 10 at Population No. 10. Their survival is not yet known.

3.5 MONITOR AND SURVEY POPULATIONS (2.2.9.1) MAPPING AND CENSUS

The 1996 census of populations indicated 320 naturally occurring individuals (a decline of 91 since 1994). Approximately 100 re-established seedlings now in the wild. The decline of natural plants is mainly attributable to external effects on two populations. Population No. 3 was burnt by wildfire (1996) and no. 7 is suffering decline thought to be attributed to rising ground water.

The 1998 census was not completed because funds for completion was not received during the reporting period. This census will now be completed in 1999, and will include a estimate of numbers at population no 3. Population size at this population following the 1996 fire is estimated to be in excess of 1500.

An analysis of all populations will be undertaken, comparing the 1994, 1996 and 1999 census details.

3.6 (2.2.9.4) NATURAL RECRUITMENT

Natural recruitment is occurring at Population No. 4 and 8. This has been achieved through rabbit eradication work and the establishment of rabbit proof fencing.

Significant recruitment has occurred at Population No. 3 following fire. Regular monitoring of the three quadrats continued twice during the year.

Mr Onno Feikema, an honours student from the faculty of Biology, Utrecht University completed a study and report entitled Mortality, water relations and growth of *Banksia cuneata* seedlings in autumn at a natural location in Western Australia. This study was commissioned by the recovery team, and Kings Park and Botanic Gardens to study "sudden deaths" in *Banksia cuneata.*

3.7 (2.2.10.3) CUNEATA PARK QUAIRADING

20 seedlings were planted in 1998 to supplement numbers.

4 CONCLUSION

The knowledge base to ensure this species' recovery in the wild continues to grow with the fine tuning of management techniques required to ensure the longer term establishment, and survival of populations and supplementary plants established for population enhancement.

The census information gathered from all populations should provide data to indicate population trends over time and will reveal the success of implemented recovery actions. Data gathered from Population No. 3 concerning fire regeneration should provide managers with strategies for possible regeneration of other larger bush populations in future years.

It is recommended that recovery actions described in the summary section of this report continue in 1999 and the recovery team look forward to supplementary funding from Environmental Australia during 1999 to allow for the continuance of specific recovery action.

GREG DURELL
CHAIRPERSON
26 February 1999

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