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GEOCRINIA RECOVERY TEAM

ANNUAL REPORT

1994

by

Kim Williams

for

The Geocrinia Recovery Team

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Geocrinia Recovery Team : annual
report, 1994 / by Kim Williams

The Geocrinia Recovery Team takes responsibility for the views expressed

Department of Conservation and Land Management
Kalamunda Regional Forest Region
Kalamunda, WA 6230

DEPARTMENT OF ENVIRONMENT AND CONSERVATION

SUMMARY

Implementation of the Recovery Plan for the Orange-bellied (*Geocrinia vitellina*) and White-bellied (*G. alba*) Frogs has been proceeding for three years and through the efforts of the Recovery Team considerable progress has been made on a number of actions identified in the plan.

Further surveys of the creeklines were undertaken in 1994 and resulted in six new populations of *G. alba* being discovered. Surveys for *G. vitellina* reinforced the very restricted distribution of this species with no new populations being recorded.

Significant gains to our understanding of the ecology and biology of these frogs were achieved during the year and the establishment of a captive breeding program may prove to be a useful tool in the future.

Recognition of the importance and fragility of the two frog species was received in CALM's Forest Management Strategy with an undertaking to defer all major land disturbance activities in the distribution area of the frogs pending further research.

The most significant achievement during 1994 was the commencement of the Conservation Fencing Program and the establishment of 6 km of fencing to protect the populations of *G. alba* on private property.

Continued expansion of the fencing program for *G. alba*, the development of an effective pig control program for *G. vitellina* sites and the establishment of a monitoring program within the fenced areas will be the major goals in 1995.

INTRODUCTION

During 1994, the third year the team has been in operation, the Geocrinia Recovery Team met on 29 July and 9 December. Sub-Teams comprising of various team members and non-team specialists were formed to resolve and report on specific issues or actions identified by the Recovery Team, in particular: Communications, Fencing, Fire, Captive Breeding & Translocations, Monitoring & Further Research,

The draft Recovery Plan identified the need for a diversity of skills, knowledge and community representation in the composition of the Geocrinia Recovery Team.

At the close of the year team membership consisted of:

Grant Wardell-Johnson	Research Scientist	CALM, Science & Information Division
Ian Wheeler	Technical Officer	CALM, Science & Information Division
Andrew Burbidge	Director, WATSCU	CALM, Nature Conservation Division
Kim Williams	Rgnl. Nature Conservation Officer	CALM - Regional Office
Roger Banks	District Manager	CALM - District Office
Greg Voigt	Dist. Nature Conservation Officer	CALM - District Office
Dale Roberts	Zoologist	UWA - Zoology Department
Don Driscoll	Ph.D. Student	UWA - Zoology Department
Ian Noakes	Landholder	Lower Blackwood LCDC
Jack Stannard	Shire Ranger	Augusta/Margaret River Shire
Eric Noakes	Councillor	Augusta/Margaret River Shire
Sally Stephens	Endangered Species Unit	Australian Nature Conservation Agency
Jean-Paul Orsini		National Threatened Species Network

During the course of the year there were four changes in team membership:

- 1) Jean-Paul Orsini representing the National Threatened Species Network was invited to join the Team and will be able to assist the team with its community involvement aims given his contacts with local community groups.
- 2) Councillor Eric Noakes became the second Augusta Margaret River Shire representative. Eric is a long time resident and farmer and brings to the team a useful historical perspective and practical advice about the general area.
- 3) Greg Voigt replaced Brad Commins as the local CALM representative.
- 4) Gordon Wyre relinquished the CALM Wildlife Branch representation.

RECOVERY PLAN STATUS

The draft Recovery Plan was revised and updated to reflect current research findings and is now awaiting approval from CALM's Corporate Executive.

BUDGET

The plan identifies a funding requirement for \$270 100 for *G. alba* and \$52 900 for *G. vitellina* over 10 years.

Implementation of the Plan has been possible because of the support of the Australian Nature Conservation Agency's National Endangered Species Program.

RECOVERY PLAN - PROGRESS REPORT

Actions undertaken in 1994

NB: (reference numbers refer to the relevant sections in the revised Recovery Plan)

Geocrinia vitellina

2.1.2.1) Survey of Riparian Habitat.

This phase of the plan was completed in 1993.

2.1.2.2) Land Tenure Changes.

The draft Recovery Plan recommended the gazettel of approx. 4600 ha of State Forest as a Class A Nature Reserve. This reserve would include the known sites of occurrence, catchments of the creek systems involved and an adjacent area of apparently suitable habitat.

A Sub-Team was formed to further refine the land tenure proposals in the Recovery Plan and seek approval from CALM's Corporate Executive to implement the changes. The Corporate Executive evaluated the teams proposal during 1994 and decided that the following actions be taken:

"Until more detailed information is available (regarding ecology and conservation status of these species), major land disturbance activities in the CALM-managed catchment where the frogs occur will be deferred pending research results. Activities on adjoining CALM managed areas will be modified to minimise impact on frog habitat. A further option which may need to be considered during the life of the Plan will be to create a special reserve over the crown lands in which the frogs occur."

The Recovery Plan has been modified to reflect this decision.

2.1.2.3) Fire Management and Research.

Two closely related species; *G. rosea* and *G. lutea* are being used to determine the likely impact of fire regimes on *G. vitellina* and *G. alba*. The twelve transects (6 control, 6 experimental) established in 1992 were surveyed three times during 1993. Unfortunately, in December 1993, a wildfire went through the sites destroying the experiment.

No changes in abundance of calling males or other adverse impacts were observed at these sites resulting from the spring 1992 controlled burn. Calling males were still recorded on the wildfire damage sites during 1994.

Further work is required to determine if fire impacts upon females and tadpoles.

2.1.2.4) Habitat Protection/Introduced Threats

A formal monthly monitoring program to assess the presence of pigs in the *G. vitellina* area was initiated in May 1994. To date no signs of pig activity have been detected at the *G. vitellina* sites.

A feral pig control program was established during 1993 using registered volunteer pig hunters from the local community. In late November 1994 the hunters reported a significant increase in pig numbers along the Blackwood River, particularly to the south and east of the *G. vitellina* sites. Over

the year approx 60 pigs were captured by the volunteers, with 16 being taken in November and December. The team resolved to:

- combine the monitoring and control programs and ask the volunteers to do both on a minimum fortnightly basis over the summer/autumn period,
- reimburse any operating expenses incurred by the volunteers,
- investigate other control measure such as baiting and trapping.

2.1.2.5) Public Information

Refer to *G. alba*

2.1.2.6) Population Monitoring.

All six existing *G. vitellina* sites were monitored by permanent transects on three occasions during 1994. All populations were found to be extant, though one transect recorded a decrease in the number of calling males from 10 (1992) to 2 (1994). The reason for this decline is unknown though it is thought to be related to a local movement of animals further up the creek, rather than a contraction in range of the species.

2.1.2.7) Genetic Studies.

Seven populations have been investigated for genetic differences using allozyme electrophoresis. Though marked genetic differentiation amongst these populations was recorded in 1993, further analyses revealed that this is typical of the *G. rosea* complex and was probably not resultant from human induced changes.

Larger sample sizes were surveyed during the 1994, however this did not result in an increase the genetic variation found within the *G. vitellina* populations. The absence of rare alleles suggests that breeding populations are small or that they have been small in the past.

2.1.2.8) Translocations.

refer to this heading for *G. alba*

Geocrinia alba

2.2.2.1) Survey of Riparian Habitat.

Additional swamps within the range of *G. alba* were surveyed during 1994. Six new populations were discovered.

2.2.2.2) Land Tenure Changes.

Refer to *G. vitellina*

2.2.2.3) Fire Management and Research.

Refer to *G. vitellina*

2.2.2.4) Habitat Protection: Conservation Fencing.

The Recovery Plan identifies the need to fence areas on private property containing *G. alba* to protect them from degradation by grazing stock.

During 1994 tenders were called and let for the construction of 6.1 km of fencing on six properties containing *G. alba*. These sites include the two most northerly locations known for *G. alba* and two relatively large populations.

Other landholders will be approached with regard to fencing during the coming year.

The fencing Sub-Team developed criteria with which to assign priorities for fencing.

- can only work with what is available - dependent upon the agreement of the landholder.
- genetically all sites should be treated as of equal merit.
- aim to fence the larger populations first - so as to maximise the conservation area,
- maximise the geographic spread of fenced populations,
- maximise the number adjoining properties containing fenced populations. to provide interconnections between populations.

2.2.2.5) Public Information.

Communications Plan

Substantial progress has been made with the "Farmers Kit", with text and graphics for seven leaflets being completed and currently in production. Copies of a *Landscape* magazine article are being secured for inclusion in the kit. Final text for the narration and the production of a master recording for the audio tape "Frog Calls of the Southwest" has been completed and will be ready for studio production in early 1995.

Two versions of a *Geocrinia* Recovery Team letterhead were printed and put to use during the year. Materials for production of the "Wildlife Aware" signs were purchased.

Publicity

A number of media articles in local papers and reports in community newsletters were initiated and the University of WA Extension Course: "Frogs Frogs Frogs" was again led by Grant Wardell-Johnson.

Community Education

A public meeting attended by approx 15 people was held in Margaret River to raise community awareness of the Recovery Team and Plan and to assess the degree of interest in forming a "Friends of" type group. Further development of this concept will be undertaken in 1995. Work has begun with primary schools in the area to develop field based activity programs exploring the ecology of wetlands.

2.2.2.6) Population Monitoring.

All known populations of *G. alba* were surveyed and found to be extant with the exception of one. This site had one calling male in 1993. Reason for loss of this population is unknown.

2.2.2.7) Genetic Studies.

Refer to *G. vitellina*.

Further analyses of data showed that the large genetic variation between populations reported last year does not fall into distinctive groups, but rather there is a continuum of genetic change throughout its populations. This means that to maintain the genetic diversity of the species many populations will need to be conserved.

2.2.2.8) Translocations.

Captive Breeding

Arrangements were finalised during 1994 with Melbourne Zoo for the establishment of a captive breeding program over three years utilising *G. rosea* to develop the breeding technologies and procedures. Two strategies were adopted:

- 1) export of adult frogs to allow the development of techniques to get adults to breeding condition and to bring breeding on,
- 2) export of egg masses to assist in the development of techniques to rear eggs and emergent frogs.

Two adult males, one subadult and two juvenile *G. rosea* were sent to Melbourne in September. The two juveniles died, probably from heat stress. Three batches of egg masses and tadpoles were sent in November. In total approximately 65 animals were exported to Melbourne. Further specimens will be sent to the captive breeding program during the coming year.

CONCLUSIONS

Implementation of the Geocrinia Recovery Plan is progressing well thanks to the efforts of the Recovery Team and the use of Sub-Teams to investigate specific actions and issues. Highlights for the year were the commencement of the conservation fencing program, and the finding of six new populations of *G. alba*.

The major goals for 1995 will be:

- the continuance of the conservation fencing program for *G. alba*,
- the establishment of monitoring sites within the fenced areas,
- establishment of database procedures to facilitate the rapid reporting of dramatic population fluctuations or habitat declines in the field,
- and the development of an effective pig control program to protect the *G. vitellina* sites.