

# DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT

Form CLM 808

Attached List

To:

① Copy to F. Batini, K. Atkins, A. Burbridge  
② Advise Ian Kealley that Kieran will deal with this on his return.

24/1/94

Your Ref: 22.2.3 IK:JA  
Our Ref: Ian Kealley, Kalgoorlie  
Enquiries: (090) 212677  
Phone:

Subject:

## SANDALWOOD CONSERVATION AND REGENERATION PROJECT (SCARP)

The SCARP project which commenced in 1988 has recently entered a new and ongoing phase. The original SCARP project, funded by sandalwood industry profits, under a cabinet decision, has now been replaced by an ongoing SCARP levy against the sandalwood industry.

The SCARP levy is paid into a trust account, with recoups against the trust account organized by the Goldfields for approved SCARP projects, as agreed by the steering committee (the SEC). Currently the levy is 5% of gross return (\$600 000pa) however it can be as high as 10% or \$1.2m/annum.

The new arrangements have ensured ongoing funding for SCARP and require a review to be conducted with a view to developing a 10 year plan for SCARP and revising the existing SCARP guidelines.

The original objectives of the SCARP project, outlined in the guidelines (Kealley 1989) were;

1. Develop and manage an effective reserve system to conserve representative areas of sandalwood, containing viable populations of plants, throughout the range of the species.
2. Carry out research, co-ordinate existing research and review and publish past research to ensure the best silviculture, protection and utilization techniques are used in management of sandalwood.
3. Develop plantations of sandalwood to supplement harvesting of natural stands.
4. Provide infrastructure to improve the efficiency of management of the current sandalwood industry.
5. Educate and promote public awareness of sandalwood conservation and regeneration through publicity, information and interaction with landholders and the public.

A range of projects, research, station purchase, reviews, reports and plantation development were undertaken against SCARP.

I would appreciate your input to the review of the SCARP project, development of a 10 year plan and indication of possible projects that could be considered by SCARP to achieve sandalwood conservation and the objectives of the sandalwood management plan. SCARP is a key factor in implementing the sandalwood management plan.

I have included some background information on SCARP including a list of suggested new projects, ideas and requirements for ongoing project funding.

I would appreciate your comments and input by mid-February 1994. Please contact me if you have further enquiries or require additional information and circulate this letter and background paper to anyone you consider may be interested.

A handwritten signature in cursive script, appearing to read 'Ian Kealley', written in dark ink.

Ian Kealley  
REGIONAL MANAGER - GOLDFIELDS REGION  
19 January 1994

# SANDALWOOD CONSERVATION AND REGENERATION PROJECT (SCARP)(1988-1993)

## PROJECT INFORMATION and BACKGROUND

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In September 1988 the \$1.5 million SCARP project co-ordinated by the Sandalwood Export Committee and supervised by CALM commenced with funding allocated from the sandalwood industry.

The overall objective of this project is to; *"improve the conservation status of sandalwood in WA."*

This was implemented by the following objectives and projects:-

- \* developing and managing an effective reserve system to conserve representative areas of sandalwood, containing viable populations of plants, throughout the range of the species, specifically:
  - purchasing areas for sandalwood reserves (pastoral leases),
  - purchasing grazing rights and removing grazing from reserves where sandalwood occurs,
  - fencing reserves and other management measures to control grazing and feral animals;
- \* co-ordinate existing research, carrying out new research and reviewing and publishing completed research to ensure the best silviculture, protection and utilization techniques are used in management of sandalwood;
- \* developing plantations of sandalwood to supplement harvesting of natural stands, specifically:
  - establishing a trial 20Ha plantation of Indian Sandalwood (*Santalum album*) in the Ord irrigation area,
  - establishing a 20Ha trial plantation of WA sandalwood in the Wheatbelt (Narrogin),
  - encouraging plantings in remnant woodland on Wheatbelt farms in the Merredin, Katanning and Greenough districts;
- \* provide infrastructure to improve utilization and the efficiency of management of the current sandalwood industry;
- \* education programs and promoting general awareness of sandalwood conservation and regeneration through publicity, information and interaction with landholders and the public;
- \* establish an extensive introduced herbivore control program to be implemented with the aim of improving the success of sandalwood regeneration.

Expenditure against SCARP for the duration of the original project was;

|           |              |
|-----------|--------------|
| 1988/1989 | \$ 173341.64 |
| 1989/1990 | 270188.60    |
| 1990/1991 | 362921.68    |
| 1991/1992 | 287822.14    |
| 1992/1993 | 369030.48    |
|           | -----        |
|           | \$1463304.54 |
|           | -----        |

Achievements of the project to date include;

### 1. Research

- 1.1 A review and rewrite, using a consultant, was completed and published as a CALM Research Bulletin (Loneragan 1990).

|           |          |
|-----------|----------|
| 1988/1987 | \$ 15000 |
| 1990/1991 | 12500    |
|           | -----    |
|           | \$ 27500 |
|           | -----    |

- 1.2 A report (consultancy) was completed documenting remnant wheatbelt sandalwood, by N Casson, 1992.

|           |          |
|-----------|----------|
| 1989/1990 | \$ 9360  |
| 1990/1991 | 12480    |
| 1991/1992 | 9360     |
|           | -----    |
|           | \$ 31200 |
|           | -----    |

- 1.3 A consultants report was completed reviewing research carried out in the last 10 years and an outline of the 10 year research requirements for sandalwood (*spicatum* and *album*). Review of research needs of the sandalwood industry in WA, Havel Land Consultants, 1993.

|           |          |
|-----------|----------|
| 1992/1993 | \$ 33400 |
|           | -----    |
|           | \$ 33400 |
|           | -----    |

- 1.4 SCARP contributed annually to the Sandalwood Research Institute where funds were directed to a range of research projects on *S. spicatum* and *S. album* conducted by universities and other agencies.

|           |          |
|-----------|----------|
| 1989/1990 | \$ 70000 |
| 1990/1991 | 100000   |
| 1991/1992 | 100000   |
| 1992/1993 | 50000    |
|           | -----    |
|           | \$320000 |
|           | -----    |

### 2. Conservation Reserves

- 2.1 Jaurdi Pastoral Lease. In 1989 CALM purchased Jaurdi Station (320000ha) for sandalwood and other conservation reasons. Since then considerable management, establishment and rehabilitation work has been completed. The lease is to be converted to State Forest once mining issues are resolved.

|           |   |
|-----------|---|
| 1989/1990 | \$ 66300 Purchase                       |
| 1990/1991 | 32000 Management & decommissioning      |
| 1991/1992 | 42970 Management & rehabilitation       |
| 1992/1993 | 32780 Management & rehab. & maintenance |

- 2.2 Mt Elvire Pastoral Lease. In 1990 CALM purchased Mt Elvire Station (154000Ha) for sandalwood conservation. It is to be converted to State Forest. The station was decommissioned and has had ongoing management and maintenance work.

|           |          |                         |
|-----------|----------|-------------------------|
| 1990/1991 | \$ 71200 | Purchase & decommission |
| 1991/1992 | 7540     | Management              |
| 1992/1993 | 3060     | Management              |
|           | -----    |                         |
|           | \$ 81800 |                         |
|           | -----    |                         |

- 2.3 Sandalwood Reserves. Fencing was completed to control stock grazing on Wallaby Rocks and Coonana Sandalwood Reserves in the Goldfields.

|           |          |
|-----------|----------|
| 1989/1990 | \$ 36600 |
|           | -----    |
|           | \$ 36600 |
|           | -----    |

- 2.4 Kambalda Timber Reserve was surveyed, fenced and alternative water points provided to exclude stock.

|           |          |
|-----------|----------|
| 1988/1989 | \$ 170   |
| 1989/1991 | 16800    |
|           | -----    |
|           | \$ 16970 |
|           | -----    |

- 2.5 Reserve Management. A range of work has been undertaken to manage sandalwood reserves and other reserves containing sandalwood and includes;

- Signposting

|           |          |
|-----------|----------|
| 1989/1990 | \$ 8730  |
| 1990/1991 | 1000     |
| 1991/1992 | 1200     |
| 1992/1993 | 860      |
|           | -----    |
|           | \$ 11790 |
|           | -----    |

- Management & Monitoring

|           |         |
|-----------|---------|
| 1991/1992 | \$ 1830 |
| 1992/1993 | 1000    |
|           | -----   |
|           | \$ 2830 |
|           | -----   |

- Feral Animal Control (Goat eradication) for CALM statewide, on reserves that contain significant sandalwood.

|           |          |
|-----------|----------|
| 1990/1991 | \$ 2100  |
| 1991/1992 | 5170     |
| 1992/1993 | 34370    |
|           | -----    |
|           | \$ 41640 |
|           | -----    |

- 2.6 Assessment. A range of stations and potential reserves were assessed and valued for possible purchase as SCARP project reserves.

|           |         |
|-----------|---------|
| 1990/1991 | \$ 1050 |
| 1991/1992 | 2000    |
| 1992/1993 | 3990    |
|           | -----   |
|           | \$ 7140 |
|           | -----   |

- 2.7 Boolardy Station. A 16000Ha sandalwood conservation reserve was created in conjunction with the pastoral leasee, Land Conservation District and CALM. Fencing and a survey of values was completed.

|           |          |
|-----------|----------|
| 1990/1991 | \$ 10000 |
|           | -----    |
|           | \$ 10000 |
|           | -----    |

### 3. Plantation and Plots

- 3.1 A provenance trial of *S. album*, with a range of hosts was established, in conjunction with Murdoch University, within the Ord irrigation area. The trial was done in conjunction with other research being done by Murdoch.

|           |          |
|-----------|----------|
| 1989/1990 | \$ 21000 |
|           | -----    |
|           | \$ 21000 |
|           | -----    |

- 3.2 A 21.2Ha Indian sandalwood (*S. album*) plantation/research trial for silviculture methods has been established within the Ord irrigation area at Kununurra (Ag Dept research station). This involved site preparation, irrigation methods, site establishment, nursery techniques, host trials, seedlings, direct seeding, seed acquisition, management and maintenance. Co-ordinated by CALM Kimberley Region initially then as a joint CALM/ACIAR project involving a full time research officer.

|           |          |
|-----------|----------|
| 1988/1989 | \$ 3450  |
| 1989/1990 | 50250    |
| 1990/1991 | 63900    |
| 1991/1992 | 93900    |
| 1992/1993 | 149370   |
|           | -----    |
|           | \$360870 |
|           | -----    |

SCARP contribution to ACIAR Research officer, Ord project.

|           |          |
|-----------|----------|
| 1992/1993 | \$ 25000 |
|           | -----    |
|           | \$ 25000 |
|           | -----    |

- 3.3 WA sandalwood plots on farms. Greenough area. Remnant stands of sandalwood in the Greenough area at Shark Bay and in the NE Wheatbelt have been fenced in conjunction with landholders. Regeneration and enrichment planting has been done.

|           |          |
|-----------|----------|
| 1989/1990 | \$ 3030  |
| 1990/1991 | 5260     |
| 1991/1992 | 5020     |
| 1992/1993 | 4720     |
|           | -----    |
|           | \$ 18030 |
|           | -----    |

- 3.4 Wheatbelt Plantation and Research. A 20Ha block was purchased near Narrogin with hosts and sandalwood (*S. spicatum*) established as a trial lot wood and research plantation. Work involved site preparation, host planting, design, sandalwood planting, direct seeding and maintenance. A smaller plot is also being developed near Katanning.

|           |          |                                   |
|-----------|----------|-----------------------------------|
| 1990/1991 | \$ 22520 | Purchase                          |
| 1991/1992 | 9460     | Establishment, host planting      |
| 1992/1993 | 17040    | Establishment, hosts & sandalwood |
|           | -----    |                                   |
|           | \$ 49020 |                                   |
|           | -----    |                                   |

#### 4. Education and Publications

- 4.1 Museum of the Goldfields. A permanent display on sandalwood has been established at the Museum of the Goldfields including indoor display and an outside historical sandalwood camp.

|           |          |
|-----------|----------|
| 1988/1989 | \$ 25000 |
| 1991/1992 | 1480     |
| 1992/1993 | 3160     |
|           | -----    |
|           | \$ 29640 |
|           | -----    |

- 4.2 Publications. The following publications have been printed.

- Research Bulletin No. 4. Sandalwood Research

|           |              |
|-----------|--------------|
| 1990/1991 | \$ 5000      |
| 1992/1993 | 3410 Reprint |
|           | -----        |
|           | \$ 8410      |
|           | -----        |

- Reprint of Landscape articles on sandalwood (glossy).

|           |         |
|-----------|---------|
| 1991/1991 | \$ 5550 |
|           | -----   |
|           | \$ 5550 |
|           | -----   |

- Growing WA sandalwood from seed pamphlet.

|           |                |
|-----------|----------------|
| 1992/1993 | \$ 2200        |
|           | -----          |
|           | <u>\$ 2200</u> |



## 5. Administration and Management

### 5.1 Administration and management of the SCARP project includes:-

- Accommodation and infrastructure to support the full time sandalwood field control officer.

|           |           |
|-----------|-----------|
| 1988/1989 | \$ 129720 |
| 1989/1990 | 4910      |
|           | -----     |
|           | \$ 134630 |
|           | -----     |

- Training for specialist tasks.

|           |         |
|-----------|---------|
| 1991/1992 | \$ 1000 |
| 1992/1993 | 770     |
|           | -----   |
|           | \$ 1770 |
|           | -----   |

- SCARP Administration costs (salary & office) including general, not project specific, recoups for administration.

|           |          |
|-----------|----------|
| 1991/1991 | \$ 1560  |
| 1991/1992 | 6890     |
| 1992/1993 | 4080     |
|           | -----    |
|           | \$ 12530 |
|           | -----    |

## FUTURE DIRECTION AND PLANS

The SCARP project will be ongoing as part of the contract processing and marketing arrangements with a proportion (5-10%) of gross returns paid into a SCARP Trust Account. As an ongoing project the objectives and strategies of SCARP are now being reviewed with a view to developing a 10 year plan for SCARP projects.

SCARP projects will consist of existing ongoing projects and new initiatives to achieve objectives.

### Ongoing Projects

Ongoing projects requiring funding will be;

- *S. album* plot/plantation at Kununurra.
- ACIAR/SCARP Research officer contribution.
- Management and rehabilitation, Mt Elvire Station.
- Management and rehabilitation, Jaurdi Station.
- Wheatbelt (*S. spicatum*) plots/plantations.
- Sandalwood reserve management.
- Goat eradication.
- Mid-west region plots and plantings.
- Administration.

The attached table indicates an approximate (1st draft) level of funding required.



## NEW INITIATIVES AND PROJECTS (INITIAL SUGGESTIONS)

A range of projects have been suggested for possible SCARP funding. Proponents will need to;

- Develop the project details, specific costings and timetables.
- Ensure the projects are compatible with the sandalwood Management Plan and SCARP objectives and strategies.
- Submit details so the projects can be included in the 10 year plan for SCARP.

Projects suggested include;

1. Ord Plantation (*S. album*) development - expand the existing plantation to a whole farm basis. This would involve purchase of an 80Ha farm, development, planting and maintenance. Costs - Purchase & Development \$300000 plus planting, management and maintenance costs annually. Alternatively a joint venture with private enterprise has been suggested.
2. Wheatbelt (*S. spicatum*)
  - Research - In line with Havels recommendations.
  - Timber values of sandalwood hosts, initial research work required.
  - Extension program based on existing plots and research.
  - Further trial plots and plantation expansion.
3. Conservation Reserve Acquisition
  - Assessment of pastoral leases with a view to purchase. Priority areas are Northeastern Goldfields, Murchison & Gascoyne.
  - Purchase of leases, decommissioning, management and rehabilitation.
  - Economic analysis of purchasing and managing stations for sandalwood conservation and sustainable harvesting.
4. Peron Station - Shark Bay. Management of the sandalwood resource, enrichment planting and management for sustainable harvest.
5. Direct seeding and enrichment planting of sandalwood on reserves and leases.
6. Sandalwood management in conjunction with "sustainable grazing". Look at techniques on a marginal lease eg Burnabinmah Station, North of Paynes Find.
7. Inventory and Monitoring. Refine inventory techniques management level inventory & resource level inventory. Conduct research on inventory methods. Compare past data with current. Monitoring.
8. Education. Develop and implement an education program for sandalwood. Pamphlets, projects, plantings and information distribution.

9. Research. Using Havel's report, implement an annual and ongoing 10 year research program, funded by SCARP, to achieve research priorities.

Please forward details of proposed projects, new initiatives and other sandalwood related ideas for inclusion in the SCARP project review.

A handwritten signature in cursive script, appearing to read 'Ian Kealley', written in dark ink.

Ian Kealley  
REGIONAL MANGER - GOLDFIELDS REGION

18 January 1994

**SCARP ONGOING PROJECTS 10 YEAR PLAN (IN 1994/95 \$)**

| PROJECT<br>ONGOING  | 1994/95 | 1995/96 | 1996/97 | 1997/98 | 1998/99 | 1999/01 | 2001/02 | 2002/03 | 2003/04 | 2004/05 |
|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| WHEATBELT PLANTATION<br>& PLOTS. NARROGIN &<br>KATANNING      | 30000   | 30000   | 30000   | 10000   | 10000   | 10000   | 20000   | 10000   | 10000   | 10000   |
| SANDALWOOD RESERVE<br>MANAGEMENT GOLDFIELDS                   | 40000   | 40000   | 20000   | 20000   | 20000   | 20000   | 20000   | 20000   | 20000   | 20000   |
| MANAGEMENT & PLANTING<br>JAURDI STATION                       | 30000   | 30000   | 30000   | 30000   | 30000   | 30000   | 30000   | 30000   | 30000   | 30000   |
| MANAGEMENT & PLANTING<br>MT ELVIRE STATION                    | 20000   | 20000   | 20000   | 20000   | 20000   | 20000   | 20000   | 20000   | 20000   | 20000   |
| MID WEST PLOTS<br>ESTABLISH & MAINTENANCE                     | 6000    | 6000    | 6000    | 6000    | 6000    | 6000    | 6000    | 6000    | 6000    | 6000    |
| GOAT & FERAL ANIMAL<br>ERADICATION                            | 25000   | 25000   | 25000   | 25000   | 25000   | 25000   | 25000   | 25000   | 25000   | 25000   |
| EXISTING ORD PLANTATION<br>PLOTS. MANAGEMENT &<br>DEVELOPMENT | 80000   | 50000   | 50000   | 50000   | 50000   | 50000   | 50000   | 50000   | 50000   | 50000   |
| ACIAR/SCARP<br>RESEARCH OFFICER                               | 25000   | 25000   |         |         |         |         |         |         |         |         |
| SCARP ADMINISTRATION  | 8000    | 8000    | 8000    | 8000    | 8000    | 8000    | 8000    | 8000    | 8000    | 8000    |
| TOTAL   | 264000  | 234000  | 189000  | 179000  | 179000  | 179000  | 181000  | 179000  | 179000  | 179000  |

**NEW INITIATIVES TO BE INCLUDED. SUGGESTED PROJECTS.**

- Research
- Expansion of Ord plantation
- Wheatbelt Research, trial & extension
- Purchase & manage pastoral leases
- Peron Station sandalwood management
- Direct seeding & enrichment planting
- Inventory & monitoring
- Education