

## **CORPORATE EXECUTIVE SUMMARY SHEET**

### **TITLE OF TOPIC:**

**Leadership Development Program Project - Fox bait options for Western Shield**

### **ISSUE TO BE DISCUSSED:**

**Identification and analysis of options available for the supply of fox baits to the Western Shield program and the recommendation for a preferred option.**

### **BACKGROUND SUMMARY / IMPORTANT ISSUES:**

Agriculture WA provides fox baits to CALM for Western Shield. AgWA is outsourcing bait manufacture. This outsourcing decision represents opportunities and threats to the Western Shield program that need to be assessed and a position developed to take the project forward in the medium term.

Options available to CALM for the supply of fox baits to Western Shield in the medium term (2-3 years) have been identified and examined. A recommendation has been determined for the most appropriate supply strategy. Options were considered in terms of their ability to minimise bait costs, maximise the security of bait supply and meet the operational needs of Western Shield.

### **RECOMMENDATIONS:**

Authorise the completion of R&D on Pro-bait by upgrading to a pilot plant at Harvey. Commit capital funding to the development of a pilot plant at Harvey to allow the finalisation of Pro-bait and the manufacture of CALM's bait requirement.

<b>SPONSORS:</b>	<b>IMPLICATIONS FOR CURRENT BUDGET:</b>
Gordon Wyre, Keith Morris	\$420,000 split over two financial years
<b>PROPONENT: Project Group</b>	<b>FORWARDED BY:</b>
Adrian Wayne, Gae Mackay, Alicia Taylor, Jeff Bennett, Roger Armstrong	Gordon Wyre

### **DECISION(S):**

## Table of Contents

Executive Summary .....	3
Project Outline .....	6
Methodology .....	7
Current Situation .....	8
Western Shield Bait Options .....	10
Discussion .....	14
Recommendations .....	19
Proposed Implementation Plan .....	20
Tables	
1. Decision Matrix.....	13
Figures	
1. Gantt Chart.....	21
Appendices	
1. Financial Analysis.....	22
2. SWOT Summaries.....	25
3. Definitions of Criteria used in Decision Matrix .....	36
4. Personnel consulted in developing and evaluating options .....	39
5. Factors Considered but found to be not relevant.....	40

## EXECUTIVE SUMMARY

The principle responsibility of CALM is to conserve biodiversity. The survival of many species of native fauna in Western Australia is dependent on the success of Western Shield. Western Shield depends on an effective fox bait.

This report examines the options available to CALM for the supply of the fox baits to the Western Shield program.

Project objectives were to:

1. Describe the current status of bait source and supply for Western Shield.
2. Identify the options available to CALM to supply baits to Western Shield.
3. Determine the most appropriate option for CALM to source fox baits, that minimises risk and costs to CALM
4. Propose an implementation plan for the recommended "best option".

CALM has historically purchased its fox bait requirements from Agriculture W.A. (AgWA). There is no other suitable, commercially available fox bait in Australia. The AgWA bait price has increased from \$0.45 in 1996 to the current \$0.74. CALM utilises nearly 780,000 fox baits per year under the Western Shield program at an annual cost of \$577,200. AgWA intends to outsource its bait manufacturing operation.

In response to these factors, CALM over recent years has undertaken research and development to produce a salami style bait (Pro-bait), that involves a mechanised, less labour intensive and more efficient process. Work on the manufacturing process specifications has proceeded to a point that requires production scale trials to proof feasibility and finalise the production specifications. Similar work has been undertaken at the facility to develop specifications for a cat bait (Eradicat).

The options identified for consideration by CALM are:

1. CALM to manufacture its own bait (Pro-bait) requirements and sell bait product into the private market;
2. CALM to manufacture its own bait requirements;
3. CALM to undertake research and development (R&D) to develop Pro-bait and manufacturing specifications then enter into a partnership with the private sector;
4. CALM to enter into a partnership with the private sector now with Pro-bait specifications and manufacturing specifications that are not complete;

5. CALM to undertake R&D to develop Pro-bait and it's manufacturing specifications then outsource to the private sector;
6. CALM to outsource now with bait specifications and manufacturing specifications that are not complete;
7. Maintain the current arrangement of purchasing Dried Meat Baits from AgWA and any subsequent private provider selected by AgWA;
8. Utilise current baits available from the private sector (e.g. Foxoff).

All options were measured against critical success criteria and a number of other key considerations including;

- benefits and potential risks to CALM,
- ability to minimise costs,
- reliability of bait supply
- the operational needs of Western Shield
- lack of a commercial provider in Australia of a suitable bait product for Western Shield.
- monopoly and competitive market issues.

It was recognised that private providers of baits to CALM would need to establish themselves in an existing "market" represented primarily by one customer (CALM). The pricing structure would need to meet the direct costs, cost of capital and return on investment plus a profit margin. It is difficult to envisage a private provider being able to achieve this at or below the current cost recovery price of Dried Meat Bait (\$0.74) or Pro-bait (\$0.55).

The option of CALM manufacturing it's own bait requirements was determined to be the most appropriate means of achieving CALM's strategic nature conservation objectives over the next 2-3 years at the best value for resources invested. This also provides the potential for vertical integration of a key organisational input.

Further development of Pro-bait will require a pilot plant. A pilot plant production facility would require a capital investment of \$420,000 in the existing Harvey R&D plant. This pilot plant would be capable of manufacturing the annual Western Shield bait requirement.

If the capital required is committed in 2000/01 full cost recovery will be achieved within two years. Savings made in subsequent years are expected to be \$240,700 per annum (i.e. 43% saving on current bait expenditure).

**It is recommended that:**

1. A dedicated bait development management team be established to coordinate the R&D.
2. Pro-bait development be finalised as quickly as possible.

3. Registration of Pro-bait with the National Registration Authority (NRA) is the highest priority of the management team.
4. The current R&D bait facility at Harvey be extended to pilot plant capacity.
5. The Implementation Plan proposed by this project team be adopted by the bait development management team.
6. On attainment of NRA registration and completion of fine tuning of Pro-bait to meet Western Shield operational requirements that a review be undertaken to determine the most appropriate bait supply scenario for CALM.

## **Project Outline:**

Western Shield is currently the world's largest wildlife recovery program, and is critical to the success of CALM's Nature Conservation strategy. The control of fox populations through the baiting program forms the backbone of the Western Shield program.

The future supply of the dried meat baits currently being used in the program, has become uncertain. The supplier, Agriculture WA (AgWA), is attempting to outsource bait production. The price of the dried meat baits has increased by approximately 60% over the past 3 years. This is based on a cost recovery pricing structure. If production is outsourced, it is likely that a further increase in price would occur due to the requirement for a profit margin to be serviced. This will have an adverse impact on the size, and hence the success of the Western Shield program. At the same time, CALM has been undertaking independent research and development of an alternative fox bait (Pro-bait), suitable for use in the Western Shield program.

This project team was appointed to evaluate and recommend a strategy for the future source and supply of fox baits for the Western Shield Program.

The project has a direct strategic alignment with CALM's Corporate Plan (2000); namely through

### **Conserving Biodiversity,**

- Strategy 4: Recover threatened flora, fauna and ecological communities, and
- Strategy 5: Maintain and expand feral predator control under Western Shield for recovery and reintroduction of rare and threatened wildlife and recovery of other wildlife species, and

### **Improving the way we do business,**

- Strategy 5: Transfer advances in biodiversity conservation knowledge and science into management operations.

Project objectives were to:

1. Describe the current status of bait source and supply for Western Shield.
2. Identify the options available to CALM to supply baits to Western Shield.
3. Determine the most appropriate option for CALM to source fox baits, that minimises risk and costs to CALM
4. Propose an implementation plan for the recommended "best option".

The most appropriate option for CALM's future source and supply of fox baits has been determined following consideration of the likely benefits and risks to CALM, the projected financial outlay required by CALM, and the impact on the Research and Development carried out to date, with regard to the development of both fox and cat baits.

## **Methodology:**

An analysis of the current status of bait supply was undertaken. This included an inspection of the R&D Facility at Harvey and consultation with staff involved with the development of Pro-bait. The report "Bait Supply to Western Shield - A Proposal for a Pilot Plant at Harvey" was critically examined. The current use and source of Dried Meat Baits was also investigated. To gain an appreciation of associated issues consultation was also undertaken with a number of people involved in the Western Shield program and in fox management issues in other States (appendix 4).

Criteria used to discriminate between bait supply options were determined. The essential issues associated with each criteria were developed. Relevant success criteria were defined (appendix 3) and the Critical Success Factors were identified.

These criteria can be broadly classified as:

- i. Critical Success Factors
- ii. Benefits to CALM
- iii. Potential risks to CALM
- iv. Financial impact to CALM and Western Shield
- v. Feasibility
- vi. Time Frame for implementation

Alternative options available to CALM were identified and explored. Each option was subjected to a SWOT analysis to ensure the full range of issues associated with the option was identified.

Each option was then assessed against the selection criteria using a decision matrix (table 1.)

The most viable options filtered by the decision matrix were then judged as to their benefits and risks to CALM.

The critical success factors are those properties that are essential to the on-going success of the Western Shield program. They have been identified as:

1. Compliance of fox baits with Western Shield requirements. That is, be effective (must be effective in controlling fox populations), be target

specific (safe for non-target species of native fauna) and suitable for aerial baiting etc.

2. Compliance with government policy, legislative and regulatory requirements (such as competitive neutrality, Poisons Act, National Registration Authority requirements, etc).
3. Secure supply of baits (critical to the success of the Western Shield program).
4. Affordability of baits (critical to the maintenance and/or expansion of the Western Shield program).

A number of factors were considered but found to be not relevant. These are listed below (details in appendix 5.):

Trade Practices Act: (only relevant if and when CALM sells baits to external users/customers), State Trading Concerns Act, National Competition Policy, Government Trading Enterprise Policy, State Supply Commission Act, Federal Agricultural and Veterinary Chemicals Act, Poisons Act

The issue of whether CALM should be manufacturing bait as part of it's core business was examined and discussed with departmental officers. The team concluded that it is entirely appropriate for CALM to manufacture baits. Having an appropriate and affordable fox bait is integral to the success of Western Shield. Fox bait contributes substantially to achieving CALM's principle corporate objective of biodiversity conservation. The critical issue is having access to a reliable supply of affordable fox baits, not who manufactures them.

### **Current Situation**

CALM utilises nearly 780,000 fox baits per year under the Western Shield program. These are sourced from Agriculture WA (AgWA). Until recently State legislation restricted the manufacture and supply of 1080 products in WA to AgWA. These baits are supplied to CALM at a cost of \$0.74 each which represents an annual expenditure by CALM of \$577,200. CALM's consumption of fox baits represents approximately 90% of AgWA's annual production.

AgWA decided to outsource its bait manufacturing operation. Legislative obstructions to private supply have been removed.

The cost of baits is a major component of the Western Shield fox baiting operation (45%). As privatisation was imminent, the current supplier of baits (AgWA) was not interested in investing in research and development (R&D) to develop a cheaper fox bait.

CALM instigated a R&D program to develop an effective fox bait that was cheaper than the current dried meat bait manufactured by AgWA. A R&D facility was established at CALM Harvey for this purpose. Development of a



feral cat bait required similar facilities. The two bait types were progressed at Harvey.

Research and development has progressed to define the manufacturing and product specifications for a new bait (Pro-bait) based on a salami manufacturing process. The principle objective of this work has been to develop a cheaper fox bait for use by CALM so that resources currently committed to bait purchase could be directed to maintaining and expanding the project. This has been achieved by selecting a process that can be mechanised, capable of produce large volumes at a low unit cost with a minimum of wastage of input materials. A product specification has been selected. Work on the manufacturing process specifications has proceeded to a point that requires production scale trials to proof feasibility and finalise the production specifications.

Pro-bait development at Harvey is at a stage where non-target and efficacy trials have been undertaken. Registration of the product with the National Registration Authority is being pursued to allow the operational use of Pro-bait in WA.

Development of Eradicat continues as required by CALMScience. A bait specification has been defined and work is being carried on to define the manufacturing process specification including toxin incorporation.

Further development of Pro-bait will require a pilot plant. A pilot plant production facility would require a capital investment of \$420,000 in the existing Harvey R&D plant. In doing so this pilot plant would be capable of manufacturing the annual Western Shield bait requirement and continuing the development of Eradicat.

Analysis suggests that the full recovery cost to CALM of manufacturing Pro-bait would be \$0.42 per bait which includes direct cost and CALM overheads (Appendix 1). This is a 43% saving on the current price of \$0.74. Allowances for competitive neutrality, depreciation of capital items allocated to the project and the cost of capital invested directly in the project, result in an estimated cost of \$0.55 per bait. This is a saving of 26% on the current price of \$0.74.

These costs need to be confirmed by manufacturing Pro-bait in a pilot plant production environment. Processing specifications associated with material behaviour and handling and drying/curing techniques can only be refined at an operational scale.

If the capital required is committed in 2000/01 it will be balanced by savings made by producing the cheaper Pro-bait within two years of adopting Pro-bait by Western Shield. From that point onwards the cost of Western Shield will be \$240,700 per annum less than current cost due to the cheaper Pro-bait. Even if the realised project costs were to exceed the estimates by 50%, the pay back period would only be increased by 6 months.

An alternative to CALM producing its own bait is to engage a private provider. This provider of baits to CALM would constitute a monopoly supplier. There is

no competition at present in the "market place" for bait supply. There is only one existing private sector supplier of fox bait in Australia. It is used on agricultural lands in Victoria, NSW and SA where it enjoys a monopoly supplier position. This bait is not acceptable to CALM for use on natural lands due to

- the risk it presents to non-target native wildlife - the bait is small and soft and easily ingested by native wildlife, particularly the lower body weight animals - exposing them to fatal doses of 1080,
- it's less than desirable effectiveness - test by AgWA against the DMB were not impressive,
- it's relatively high cost (\$0.90) and
- it's inability to be delivered aerially - its softness results in massive deformation on impact.

These deficiencies were brought to the attention of the manufacturer but modifications could not be made to overcome them.

Private providers of CALM baits would need to establish themselves in an existing "market" represented primarily by one customer (CALM). The pricing structure would need to meet the direct costs, cost of capital and return on investment and a profit margin. It is difficult to envisage a private provider being able to achieve this at or below the current price of the DMB (\$0.74) or the projected full cost recovery price of the Pro-bait (\$0.55).

Alternative options exist between these two extremes of "in-house" manufacture and total outsourcing to the private sector. This includes some form of partnership with a private provider for bait development and /or manufacture. Alternatively it is also possible for CALM to sell its interest in the physical and intellectual capital of Pro-bait.

### **Western Shield Bait Options**

- 1. CALM undertakes to develop and produce Pro-bait for CALM needs and to sell baits to external markets**

#### **Scenario Description:**

CALM continues to develop Pro-bait for Western Shield and potential external markets. These may include pastoralists, other nature conservation and management agencies, non-government conservation organisations and other community conservation initiatives

- 2. CALM undertakes to develop and produce Pro-bait for Western Shield.**

#### **Scenario Description:**

CALM continues to develop Pro-bait, obtains NRA approval for the product and produces the baits within the department for departmental requirements. Dried meat baits from AgWA (or licensee under AgWA control) continue to be

used by Western Shield until Pro-bait is operationally available (i.e. product development completed and NRA registration approved).

**3. CALM completes Pro-bait research and development and then production is conducted in partnership with a private party.**

**Scenario Description:**

CALM completes Pro-bait research and development to a point that the product is suitable for operational use. CALM then enters into an agreement with a private party to produce Pro-bait using existing CALM infrastructure and capital. This agreement may take the form of a licence or some other contract that prescribes conditions to protect and satisfy CALM and Western Shield requirements.

**4. CALM enters into a partnership with a private party to complete Pro-bait research and development and undertake bait production.**

**Scenario Description:**

CALM invites expressions of interest and agrees in a partnership with a private party to complete the development of Pro-bait and to produce baits for Western Shield. Associated development and production costs are thus shared. The potential remains that baits may be sold to markets external to CALM.

**5. CALM Completes Research and Development Pro-bait and then sells the product to the Private Sector**

**Scenario Description:**

CALM completes the research and development of Pro-bait to a point that the product is suitable for operational use. The pro-bait product and associated infrastructure /capital is then sold completely to an interested private party that then supplies and sells this product to CALM and other markets at its own discretion.

**6. CALM Sells research and development Pro-bait now**

**Scenario Description:**

CALM seeks an interested party to buy the research and development of Pro-bait that has been progressed to date. The expectation/arrangement would involve a private party completing the final stages of Pro-bait development for operational requirements and then supplying departmental bait demands. This option allows the private party to commercialise and to establish other potential markets other than CALM.

**7. Status Quo: Continue to use dried meat baits (DMB) from an external source (currently AgWA)**

**Scenario Description:**

CALM continues to buy the existing dried meat baits (DMB) from external sources. Bait supply for CALM's Western Shield Program is currently from AgWA. If CALM continued to source its baits with a multiple year guarantee of demand, bait supply would be expected to be outsourced by AgWA to a privateer. A privateer has already been determined by AgWA to produce DMB, under licence, using the existing production facilities on AgWA estate in Forrestfield. Final agreement of the licence has been suspended and remains largely dependent on a written multiple year guarantee of demand by CALM. CALM is not willing to give such an undertaking until the provider can identify a price (for further details see 'Current Situation'.

**8. Other available products currently on the Australian market.**

**Scenario Description:**

Other 1080 bait products currently available on the Australian market were investigated for their potential suitability for use by CALM's Western Shield program. Inquiries were made to relevant conservation and management agencies in New South Wales, Victoria, and Queensland. Wet (fresh) meat baits, cooked meat or liver and a commercially available product called 'Fox Off' (Applied Biotechnologies, Victoria) are used.

SWOT analyses for wet and cooked meat baits were not conducted given that they were clearly not viable options available to CALM for the following reasons:

- these baits are not available commercially;
- they are not, nor have they got the potential to be registered for use in WA;
- they are perishable (no shelf life);
- cannot be economically produced in bulk;
- do not meet the operational needs of Western Shield.

Only the commercially available 'Fox-Off' bait is analysed here.

**Table 1. DECISION MATRIX**(For definitions of criteria see [appendix 3](#))

Criteria		Option1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7	Option 8
Bait compliance with Western Shield requirements	<b>a. Baits are effective for fox control</b>	Y	Y	Y	Y	Y	Y	Y	Y
	<b>b. Baits are target specific (relatively non-safe for non-target native fauna)</b>	Y	Y	Y	Y	Y	Y	Y	N
	<b>c. Baits are suitable for aerial delivery</b>	Y	Y	Y	Y	Y	Y	Y	N
	<b>d. Baits have a consistent quality (in particular toxin concentration)</b>	Y	Y	Y	Y	Y	Y	U	Y
	e. Baits have a shelf life of 3 months or more	Y	Y	Y	Y	Y	Y	Y	Y
	f. Baits have a consistent shape and size	Y	Y	Y	Y	Y	Y	N	Y
Compliance with govt. requirements	<b>g. Bait has, or is likely to obtain, National Registration Authority approval</b>	Y	Y	Y	Y	Y	Y	Y	Y
Secure supply of baits	<b>h. The future supply of baits is likely to be secure</b>	Y	Y	Y	Y	Y	U	U	Y
	i. CALM has at least some degree of control over the supply of baits	Y	Y	Y	Y	N	N	N	N
Affordability of baits	<b>j. The current program of Western Shield is able to be maintained (bait price must not exceed 74c per unit)</b>	Y	Y	Y	Y	U	U	U	N
	k. The bait price per unit is likely to remain stable (CPI-linked increases only)	Y	Y	Y	U	N	N	N	N
	l. The current program of Western Shield is likely to be exceeded (bait price must be less than 74c per unit)	Y	Y	Y	Y	U	U	N	N
Benefits to CALM	m. Complimentary R&D on "Eradicat" and other baits will continue	Y	Y	Y	Y	N	N	N	N
	n. Opportunity to improve the efficiency of use of current District staff (seasonal)	Y	Y	U	U	N	N	N	N
	o. Opportunity to produce revenue to CALM from the direct sale of baits, or under licence agreement	Y	N	Y	Y	N	N	N	N
<b>Score</b>	<b>Does the bait meet all of the critical success factors?</b>	Y	Y	Y	Y	Y	Y	Y	N
	<b>Total score achieved</b>	15	13	14	13	3	2	-2	-3

Key: **Bold** print indicates a critical success factor. A rating of "No" will eliminate the option from consideration.

Scores: Yes +1; Uncertain 0; No -1

Scores will be tallied to rank the options in order from most suitable to least suitable.

Option 1	CALM develop and produce Pro-bait for CALM and private market	Option 5	Complete Pro-bait development then sell to private sector
Option 2	CALM develop and produce Pro-bait for CALM	Option 6	Sell research and development of Pro-bait now
Option 3	Complete Pro-bait development then partnership	Option 7	Continue with dried meat baits from AgWA and their successor
Option 4	Partnership to complete Pro-bait develop and production	Option 8	Other bait product currently commercially available

## Discussion

The proposal has similar strategic issues associated with it as the decision to expand the CALM Manjimup Nursery. It is difficult to outsource a product (e.g. fox bait or pinaster cuttings) where the product specification is being continually improved.

The market in Australia for fox baits is not a competitive market. There is only one supplier currently and that bait product (Foxoff) is not suitable for CALM purposes.

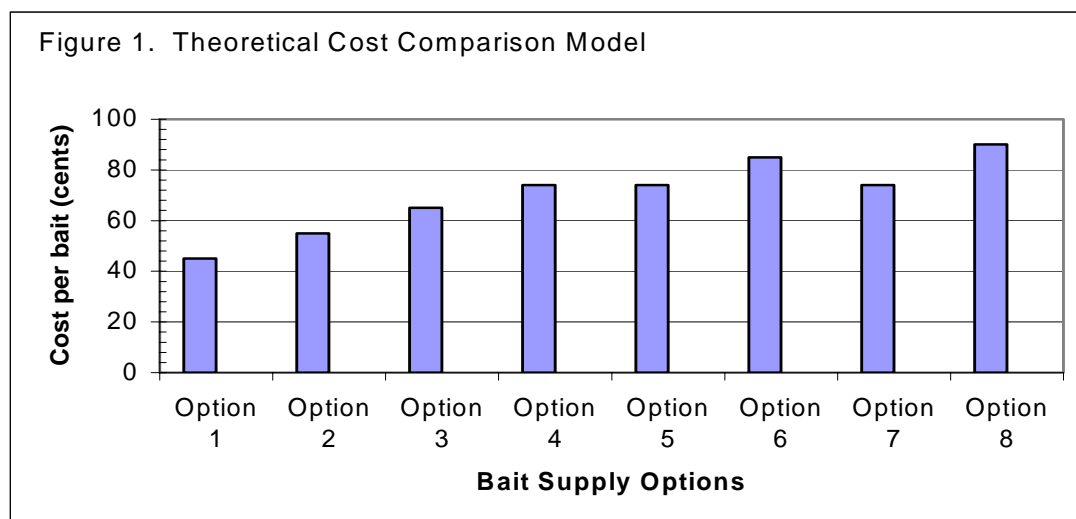
Vertical integration of a key organisational input is also a critical consideration for CALM where a dependence on bait price, continuity of supply and quality are a cornerstone to achieving CALM's nature conservation outcomes.

In the absence of a competitive market CALM should consider those options that provide the best control on price and security of bait supply. These two criteria have the greatest potential to negatively impact the implementation of the Western Shield program. This can be achieved by CALM undertaking bait manufacture "in house" or by careful partnership with a private sector provider. The advantages and disadvantages for each of the options selected as appropriate for CALM at this time are set out below.

In comparing these options judgements have been made on issues that relate to minimising risk to CALM in terms of bait price stability and consistency of supply. We have not attempted to identify the detail of arrangements that could be utilised for partnership arrangements but acknowledge that the issues of price and security of supply can be addressed in a variety of ways in any contractual arrangement.

An important consideration for the adoption of Pro-bait is the need for NRA registration. Pro-bait is not yet registered for use in WA. The team considered the issues surrounding registration and concluded that registration of Pro-bait is achievable and is simply a matter of time and process. The time component required for registration is a critical factor in determining the economic benefits of its adoption by Western Shield. The time line set out in the Implementation Plan requiring registration to be achieved by December 2001 underlies the team's consideration of options.

Detailed financial comparisons of options were not possible. Detail for such comparisons is not available and to make assumptions about costs was considered to be unsatisfactory. However, a theoretical cost comparison model illustrated in **Figure 1**. was used to assist the team in its considerations.



The decision matrix used to filter options proved to be an effective tool. It was robust in the sense that no single criteria had sufficient weight to eliminate or significantly promote an option. It proved useful in allowing discriminating judgements to be made in a very complex issue.

Considerations of benefits and risks to CALM of the most attractive options is set out below and supports the recommendations made in the following section of the report.

**Option 1: CALM completes R&D on Pro-bait then produces and sells baits both internally and externally**

**Benefits to CALM:**

Ensures cost control as CALM has absolute control of all input costs.

Ensures reliable supply of quality bait product

Price minimisation as a cost recovery price structure would be used with no commercial imperative to make a profit.

Integration of CALM workforce into this enterprise allows optimisation of work scheduling.

Allows continued R&D on bait products (including cat bait) to ensure continuous improvement of operational effectiveness and efficiency.

A saving of \$241,000 per annum on current expenditure after pay back of capital investment is achieved in the first 2 years of operation.

Income will be generated by the sale of product into the private sector to support nature conservation objectives.

**Risks to CALM:**

Politically unpalatable for a government agency to sell into a private market

Politically unpalatable for one government agency (AgWA) to outsource bait production and for another (CALM) to internalise bait production.

Requires an initial investment of \$420,000

**Option 2 CALM completes R&D on Pro-bait then manufactures own baits for its own use**

**Benefits to CALM**

Simplicity - uses existing administrative and resource infrastructure with no third party involvement

Ensures cost control as CALM has absolute control of all input costs.

Ensures reliable supply of quality bait product

Price minimisation as a cost recovery price structure would be used with no commercial imperative to make a profit.

Integration of CALM workforce into this enterprise allows optimisation of work scheduling.

Allows continued R&D on bait products (including cat bait) to ensure continuous improvement of operational effectiveness and efficiency.

A saving of \$241,000 per annum on current expenditure after pay back of capital investment is achieved in the first 2 years of operation.

#### Risks to CALM:

Requires an investment of \$420,000 initially

There is potential for pressure to be brought to bear on CALM, in the absence of a private sector supplier of baits, for CALM to provide baits to the private sector or to outsource production to the private sector.

### **Option 3 CALM completed R&D then enters into a partnership with a private sector provider**

#### Benefits to CALM

CALM has strong influence on bait price to CALM - allowing savings that enable an expansion of Western Shield.

CALM has strong influence on issues that impact on reliability of bait supply to CALM.

CALM has a definite product specification to "sell" to the private sector partner optimising CALM's capitalisation of intellectual property.

Provides an opportunity for the partner to invest in production facility (CALM recoups some development costs)

Bait price to CALM may be subsidised by sales to private sector market.

There is an opportunity for CALM to acquire an ongoing income stream to support CALM nature conservation objectives.

Minimises administrative overhead to CALM in managing a bait production facility e.g. Compliance with Trade Practices Act, Competitive Neutrality Policy etc.

#### Risks to CALM

Management overhead in dealing with a partner - legal, administrative, communication, negotiation etc.

Potential conflicts in objectives between a nature conservation agency and a commercial enterprise.

Political palatability of a government agency being involved in a commercial enterprise.

Risk of partnership failure and the subsequent impacts on the viability of Western Shield in the short and medium term.



**Option 4 CALM enters into a partnership to complete R&D and undertake bait production.**

Benefits to CALM

Share the cost of R&D

Utilise specialist skills provided by partner.

Has the potential to change or reduces the nature of work demanded of CALM personnel?

Risks to CALM

No assurance that CALM R&D intellectual property will realise its full value or its value being respected by the partner when negotiating the bait price to CALM.

Protection of intellectual property rights in the partnership.

Limited by the level of investment the partner is prepared to provide

Availability of suitable potential partners

Risk of partnership failure and the subsequent impacts on the viability of Western Shield in the short and medium term.

Costs may increase due to partner's commercial objective.

**Feasible but not recommended:**

**Scenario 1** offers CALM the greatest certainty of price and continuity of supply. It also offers an opportunity to create an income stream for CALM that could be utilised to achieve nature conservation objectives. However, the political palatability of this option would make it very difficult to attain. For this reason this option is not recommended.

**Scenario 3** ensures that CALM has a finalised R&D product that is saleable to the private sector and protects CALM's investment in intellectual property. This allows CALM to enter into an agreement with a private provider with confidence that it will have significant influence over bait price and continuity of supply. There are numerous contractual arrangements that could be utilised in this situation ranging from joint venture manufacturing to manufacturing under a license agreement. However, until CALM has a defined R&D product to sell there is very little leverage that can be applied in achieving a favourable partnering agreement with a private provider. This scenario will be the most appropriate option at a point in the future when the R&D is completed and bait manufacturing specifications and operational trials have been finalised. It is not recommended that this option be utilised at this time.

**Scenario 4** allows CALM to minimise any future investment in R&D by entering into a partnership to finalise the R&D and commence manufacture. Providing the current intellectual capital to the joint venture partner before it has matured limits the control CALM can exercise over its use. It will also decrease the leverage that CALM will be able to apply in minimising the cost of baits to CALM after the R&D has been finalised. Given the urgency to finalise the R&D, the limited number of potential joint venture partners available and the time that it would take to identify and develop a partnership agreement this option is not recommended.

## **Recommended:**

**Scenario 2** offers CALM the best control of bait cost and security of supply at this point in time. It has all the advantages of scenario 1 whilst being more politically palatable. It also preserves the option to consider a partnership arrangement at a future time when pro-bait has been fully developed and proofed for operational effectiveness. This partnership agreement can be negotiated from a position of strength maximising the benefit to CALM in the long term. It is recommended that a pilot plant at the current Harvey R&D facility be established to finalise the development of Pro-bait.

## **RECOMMENDATIONS**

Recommendations presented here are made on the best information currently available.

As a result of the analyses and assessments conducted by the project team, it is clearly evident that Pro-bait meat baits present the most appropriate bait medium for fox control using 1080 within Western Australia. It is important to note, however, that Pro-bait is not yet established as a fully proven product available for operational use. CALM's involvement will be instrumental in developing Pro-bait to an operational product for use in the Western Shield Program.

The project team recommends the following actions for approval by CALM's Corporate Executive:

1. A dedicated Pro-bait Management Team should be established to co-ordinate the research and development.
2. Complete the development of Pro-bait to allow its operational application under Western Shield.
3. Obtaining registration for Pro-bait by the National Registration Authority should be the primary aim of the Management Team.
4. Establish a pilot plant at the existing Harvey R&D facility to facilitate recommendations 2 & 3.
5. The Management Team to adopt the Implementation Plan proposed by this Project Team.
6. A review of the possibility for partnership with private enterprise be undertaken on attainment of NRA registration and satisfaction of final bait specification for Western Shield use.

## **PROPOSED IMPLEMENTATION PLAN FOR PRO-BAIT DEVELOPMENT**

Subject to the endorsement by the CALM Corporate Executive of the recommendations presented in this report, following is a proposed implementation plan. The proposal presented here should be regarded as a guide. It identifies the major tasks considered necessary for the development of Pro-bait into an effective and operationally useful conservation tool. The implementation plan also suggests a time line for this progress (Figure 2).

### **1. Establish a Bait Development Project Management Team**

#### **Start: Immediately**

A dedicated and appropriately resourced management team is necessary to effectively direct the development of both Pro-bait and Eradicator. The principle functions of the management team would include,

- i) formulating strategic plans to manage critical success factors and risks;
- ii) coordinating research and development, particularly between expertise within different divisions and sections of the Department and between personnel contributing different components to the project;
- iii) monitor and report on progress and development; and
- iv) co-ordinate the review of CALM's future options once Pro-bait has had NRA approval and it has been satisfactorily field tested at operational scale

### **2. Project Management Team to Develop Strategic Plan**

#### **Start: As soon as the project management team has been formed**

A strategic plan is necessary to achieve project goals and manage progress. The strategic plan needs to specifically address the NRA approval of Pro-bait and any other significant risks associated with the project

### **3. Establish the Pro-bait Pilot Production Plant**

#### **Complete Immediately**

Review pilot production plant designs and capital expenses proposed for the existing Harvey bait manufacturing facility. Having done so, complete the construction and purchase of infrastructure and equipment required for Pro-bait production. The opportunity to stage the development and spread the application of funds over two financial years needs to be determined.

### **4. Complete Pro-bait Product Development**

#### **Continue**

Refine the Pro-bait manufacturing process (such as reliable toxin delivery) to satisfy all Western Shield specifications including consistent product quality, optimise production efficiency and test production capacity to meet CALM demand.

## **5. Operational Field Trials of Pro-bait**

**Start: May 2001 (nominal)**

Once Pro-bait product development and the manufacturing process is sufficiently advanced, undertake operational field trials. The aim of these trials is to test and identify potential areas for improvement in the delivery of these baits as part of the Western Shield Program. These field trials have the potential to be integrated with the strategic research associated with the project.

## **6. Strategic Research on Pro-bait for NRA Approval and Management**

**Continue**

Conduct the research necessary to satisfy NRA requirements, achieve NRA approval and to provide CALM with management information. This research should be identified and coordinated by the Project Management Team. It may include comparative fox bait uptake trials between dried meat baits and Pro-bait, native non-target risk assessments and field population responses of priority species.

## **7. NRA Approval of Pro-bait**

**Nominal Target Date: December 2001**

The Project Management Team should coordinate as its highest priority, satisfying the requirements for NRA approval in the shortest time frame possible and in the most efficient and professional means possible.

## **8. Review CALM Options for Bait Production and Supply**

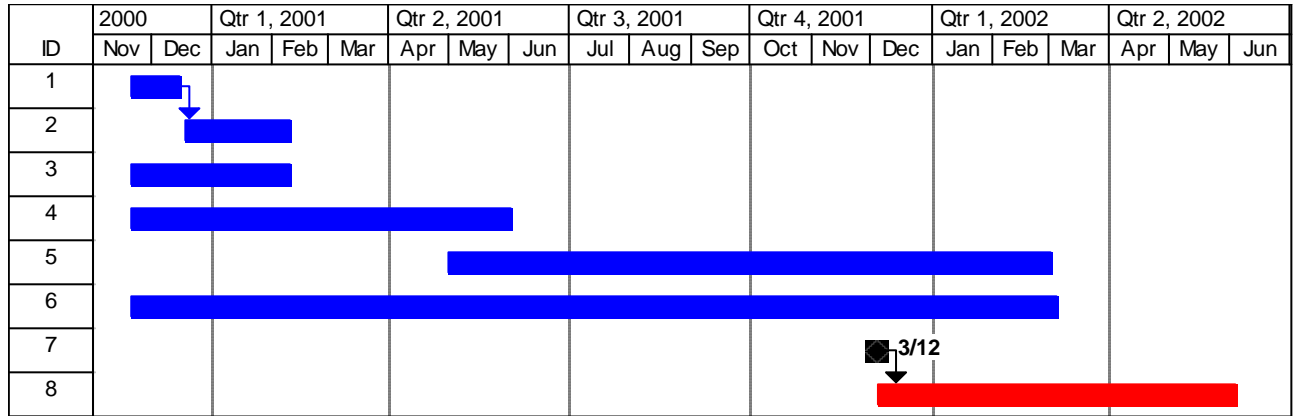
**Start: When NRA Approval Granted**

Once NRA have approved Pro-bait for operational use within Western Australia the Project Management Team should co-ordinate the review of CALM's future options. The review should at least include the following;

- i) assessment of the options available to CALM for Pro-bait production and supply. For example, whether CALM should produce baits only for Departmental use, whether CALM should also produce and sell baits to other markets within WA or Australia, or whether some arrangement be established with a commercial business to supply CALM with its bait requirements.
- ii) evaluate the most suitable location for Pro-bait production
- iii) consider Eradicat bait development and integration to Pro-bait future decisions

**Figure 2.**

**Gantt Chart for the proposed implementation plan for Pro-bait development**



**Appendix 1** Financial analysis of Option 2

	ITEM	PER ANNUM	unit	PER BAIT	unit	UNIT PRICE	\$ PER ANNUM PRODUCTION OF 800,000 BAITS	\$ PER BAIT	COMMENT
<b>Direct Costs</b>									
MATERIAL	Kangaroo meat	51,000	kg	70	gm	1.25	63,750.00	0.0797	
	Pork fat	14,600	kg	20	gm	1.30	18,980.00	0.0237	
	Digest	7,300	kg	10	gm	2.50	18,250.00	0.0228	
	Binder	2000	kg	9	gm	7.50	15,000.00	0.0188	
	Toxin	2400	gm	3	mg	4.20	10,080.00	0.0126	The cost of the toxin formulation is yet to be determined but has been factored at 10x the purchase price of the Tech grade product.
	Skins	80000	m	100	mm	0.20	16,000.00	0.0200	
	Packaging	4000	bags			0.80	3,200.00	0.0040	
	Gas						500.00	0.0006	
	Water						500.00	0.0006	
	Electricity						15,000.00	0.0188	
	Telephone						500.00	0.0006	
	Clothing						500.00	0.0006	
	Plant						5,000.00	0.0063	
	Sundries						3,000.00	0.0038	
	Facility maintenance						7,000.00	0.0088	
WAGES	AWU L3.2	250	days			159.00	39,750.00	0.0497	Wages and Salary costs include 35% overhead which covers workers comp, Superannuation, ARL, LSL, Sick leave, public holidays, other leave, staff professional liability insurance, travel insurance
SALARY	L4(3yr)	0.25	FTE			56876.00	14,219.00	0.0178	
<b>Total direct costs</b>							<b>231,229.00</b>	<b>0.2890</b>	This is the cost to CALM including overheads on salary and wages
<b>Indirect costs CALM O/H</b>		45% of total direct costs				<b>Total indirect costs</b>	<b>104,053.05</b>	<b>0.1301</b>	Depreciation on Dept assets, interest expense (cost of capital ), corp services Div costs, Corp Relations Div Costs, Corp Executive costs, Internal Audit costs, Fringe Benefit tax.
<b>Internal cost to CALM</b>								<b>0.4191</b>	Cost to CALM without competitive costing or cost of capital
<b>Competitive neutrality allowance</b>		8% of total direct and indirect costs				<b>Competitive neutrality</b>	<b>26,822.56</b>	<b>0.0335</b>	Notional on-costs - Services received free of charge, Payroll Tax, Rates and Charges
<b>Total annual cost</b>							<b>362,104.61</b>	<b>0.4526</b>	
<b>Specific Depreciation allowance</b>						<b>Depreciation allowance</b>	<b>44,040.48</b>	<b>0.0551</b>	Depreciation of capital items specific to this project for the first year
<b>Specific Opportunity cost of capital</b>		6% of written down value of assets employed				<b>Opportunity cost of capital</b>	<b>31,548.00</b>	<b>0.0394</b>	Opportunity cost of capital applied specifically to this project for the first year
<b>Final bait cost incorporating competitive neutrality and opportunity cost of capital</b>								<b>0.5471</b>	Cost in a competitive market

### Appendix 1 (cont.)

#### Annual Opportunity Cost of Capital

YEAR	Year	Starting value	Annual Depreciation	Written Down Value	Annual Cost of Capital @ 6%
2000	1	525,800.00	44,040.48	481,759.52	31,548.00
2001	2	481,759.52	44,040.48	437,719.04	28,905.57
2002	3	437,719.04	44,040.48	393,678.56	26,263.14
2003	4	393,678.56	44,040.48	349,638.08	23,620.71
2004	5	349,638.08	44,040.48	305,597.60	20,978.28
2005	6	305,597.60	39,200.47	266,397.13	18,335.86
2006	7	266,397.13	39,200.47	227,196.66	15,983.83
2007	8	227,196.66	37,843.33	189,353.33	13,631.80
2008	9	189,353.33	37,843.33	151,510.00	11,361.20
2009	10	151,510.00	37,843.33	113,666.67	9,090.60
2010	11	113,666.67	14,633.33	99,033.34	6,820.00
2011	12	99,033.34	14,633.33	84,400.01	5,942.00
2012	13	84,400.01	14,633.33	69,766.68	5,064.00
2013	14	69,766.68	14,633.33	55,133.35	4,186.00
2014	15	55,133.35	14,633.33	40,500.02	3,308.00
2015	16	40,500.02	8,100.00	32,400.02	2,430.00
2016	17	32,400.02	8,100.00	24,300.02	1,944.00
2017	18	24,300.02	8,100.00	16,200.02	1,458.00
2018	19	16,200.02	8,100.00	8,100.02	972.00
2019	20	8,100.02	8,100.00	0.02	486.00

**Total interest 232,329.00**

Years	Annual depreciation value	Total write off
1 to 5	\$ 44,040.48	\$ 220,202.40
6 to 7	\$ 39,200.47	\$ 78,400.94
8 to 10	\$ 37,843.33	\$ 113,529.99
11 to 15	\$ 14,633.33	\$ 73,166.65
16 to 20	\$ 8,100.00	\$ 40,500.00
		\$ 525,799.98

## Appendix 1 (cont.)

Estimated pay-back period for investment in Bait Production Facility Pilot Plant				
	Current annual cost of DMB @ \$0.74	Cost to produce Pro-bait @ \$0.29	Annual cash saving made on current bait cost Pro-bait @ \$0.29	Cumulative Savings
<b>Budget 2000/2001</b>				
Materials		178,000.00		
Wages		39,750.00		
Salary		14,300.00		
Materials - capital equipment		114,300.00		
Cold store/Curing room construction		144,000.00		
Capital - building modification		162,000.00		
<b>Total</b>	577,200.00	<b>652,350.00</b>	-75,150.00	-75,150.00
<b>Budget 2001/2002</b>				
Materials		178,000.00		
Wages		39,750.00		
Salary		14,300.00		
<b>Total</b>	577,200.00	<b>232,050.00</b>	345,150.00	270,000.00
<b>Budget 2002/2003</b>				
Materials		178,000.00		
Wages		39,750.00		
Salary		14,300.00		
<b>Total</b>	577,200.00	<b>232,050.00</b>	345,150.00	615,150.00
<b>Budget 2003/2004</b>				
Materials		178,000.00		
Wages		39,750.00		
Salary		14,300.00		
<b>Total</b>	577,200.00	<b>232,050.00</b>	345,150.00	960,300.00
At \$0.29 per bait an initial investment in 2000/01 of \$420,300 i capital items will result in a debt exceeding the savings made on current bait cost for that year by \$75,150. In subsequent years a saving of \$345,150 will be made on current bait cost resulting in a positive budget surplus occurring in 2001/02 and continuing to grow in subsequent years by \$345,150.				



**Appendix 2**

**SWOT Analysis of Options**

**SUMMARY OF SWOTS FOR OPTIONS**

**1. CALM PRODUCING AND SELLING PRO-BAIT ALONE (INTERNAL AND EXTERNAL MARKETS)**

**Scenario description:**

CALM undertakes to develop and produce Pro-bait for Western Shield and for potential external markets. These may include pastoralists, other Australian Nature Conservation and Management agencies, non-government conservation organisations and other community conservation initiatives.

**Strengths**

- Economies of scale would potentially reduce the price of baits
- Expansion of baiting programs onto lands other than those managed by CALM.
- CALM has greater control over price, continuity of supply and quality
- CALM has control in input costs (e.g. raw materials, wages)
- Much of the capital infrastructure already exists at the Research and Development Factory in Harvey
- Work program integration of existing staff allows flexibility and optimise work loading across seasons

**Weaknesses**

- Limited financial resources within existing budget to establish pilot production plant
- Do not yet have NRA approval

**Opportunities**

- Research and development opportunities of "Eradicat" bait would be optimised
- Savings on the cost of bait provides CALM with more money to increase and/or improve conservation programs
- Revenue can be generated from the external sales
- CALM has the ability to further refine predator control methods

### **Threats**

- Possible public/private opposition to a government agency being involved in a perceived private enterprise
- Possibility of government resistance to the activity (allow AgWA to outsource to private sector Govt Legislation and policy change)
- Current research and development factory at Harvey may be affected by the Local Govt planning and zoning policies.

## **2. CALM UNDERTAKES TO DEVELOP AND PRODUCE PRO-BAIT FOR WESTERN SHIELD.**

### **Scenario description:**

CALM continues to develop Pro-bait, obtains NRA approval for the product and produces the baits within the Department for departmental requirements. Dried meat baits from AgWA (or licensee under AgWA control) continue to be used by Western Shield until Pro-bait is operationally available (i.e. product development completed and NRA registration approved).

### **Strengths**

- Cost effectiveness (currently the cheapest alternative bait available).
- Price minimisation: Producing the bait in-house removes the profit margin component of the price.
- Work program integration of existing staff allows flexibility and optimise work loading across seasons.
- Calm has control on input costs (e.g. Raw materials, wages) and quality of outputs.
- Vertical integration in a non competitive market maximises cost and production efficiency e.g. (adaptability and responsive to operational needs).
- Pro-bait is more conducive to mass production than Dried Meat Bait.
- Provides opportunity to further develop departmental knowledge and skills in bait requirements and production.
- Much of the capital infrastructure already exists at the Research and Development Factory in Harvey.
- Calm has greater control of continuity of supply.

### **Weaknesses**

- Limited financial resources within existing budget to establish pilot production plant.
- The full-scale plant would not be used to its maximum production or market capacity. Therefore economies of scale and cost efficiency are unlikely to be optimised when only meeting the current CALM requirements.

### **Opportunities**

- CALM Research & Development opportunities of the 'Eradicat' bait would be optimised.
- Savings on the cost of bait provide CALM with more money to increase and /or improve conservation programs.
- Potential remains for CALM to encourage revenue generation.
- Potential remains for CALM to commercialise nature conservation off CALM estate.
- CALM has the ability to further the refinement of feral predator control methods.

### **Threats**

- Possible public and/or private opposition to a Government agency being involved in a perceived private enterprise.
- Possibility for government opposition or resistance to the activity (e.g. to allow AgWA to outsource to the private sector Gov. Legislation and Policy was changed)
- Limited experience within CALM associated with bait manufacture.
- The Local Govt planning and zoning policies may affect the current site of the Harvey factory.

### **3. CALM COMPLETES PRO-BAIT RESEARCH AND DEVELOPMENT AND THEN PRODUCTION IS CONDUCTED IN PARTNERSHIP WITH A PRIVATE PARTY.**

#### **Scenario description:**

CALM completes Pro-bait research and development to a point that the product is suitable for operational use. CALM then enters into an agreement with a private party to produce Pro-bait using existing CALM infrastructure and capital. This agreement may take the form of a licence or some other contract

that prescribes conditions to protect and satisfy CALM and Western Shield requirements.

### **Strengths**

- Builds on existing research and development carried out by CALM
- Relatively unlimited/ongoing investment if the company can see it is a worthwhile project
- Control of quality and supply of the bait will be maintained. We would also be able to increase production if required during the first 2 years to meet field recommendations
- A set price can be maintained for a period of time to allow for expansion of the program
- CALM can maintain control therefore avoiding the monopoly risks of increasing price and irregular supply

### **Weaknesses**

- Pro-bait is not yet NRA registered
- CALM may have difficulty finding a suitable private operator who will work under licence
- Production technique of Pro-bait remains untested on full scale trial
- Production figures are based on assumptions rather than actuals due to production not yet having commenced
- There are management overheads in dealing with partnerships

### **Opportunities**

- CALM may be able to recoup costs of research and development within 3 years of full scale production
- CALM has the opportunity to continue the development of the "Eradicat" bait as significant research has already been invested in
- CALM can maintain control over quality and continuity of supply, therefore we are able to expand the Western Shield program to cover a greater area of the state
- The Mornington District has the opportunity to provide greater flexibility of work for current CALM employees in terms of the seasonal nature of CALM's works programs
- Allows for the further refinement in the production process in response to field trials

### **Threats**

- CALM has no control if there are any further changes to government policy with regards to privatisation
- The manufacture process needs further refinement and this may become expensive
- There is the risk that a new supplier may be able to produce the bait cheaper once the product is entered into an open market
- Potential conflict may exist in objectives between a nature conservation agency and a commercial enterprise

#### **4. CALM ENTERS INTO A PARTNERSHIP WITH A PRIVATE PARTY TO COMPLETE PRO-BAIT RESEARCH AND DEVELOPMENT AND UNDERTAKE BAIT PRODUCTION.**

##### **Scenario description:**

CALM invites expressions of interest and agrees in a partnership with a private party to complete the development of Pro-bait and to produce baits for Western Shield. Associated development and production costs are thus shared. The potential remains that baits may be sold to markets external to CALM.

### **Strengths**

- A joint venture may allow for a relatively unlimited investment if the company can see it is worthwhile
- The quality, cost and continuity of supply of baits will be guaranteed through CALM's involvement
- A joint venture/partnership would enable CALM to supply to landowners for their private use on farm.
- There is less of a potential for conflict over competitive neutrality through the involvement of a private company
- Economies of scale are achieved with ongoing investment.

### **Weaknesses**

- CALM may be limited by the amount of investment the private company are willing or able to make into the project. We may have to guarantee results within a certain time frame.
- There is the lack of autonomy when another party is involved.

### **Opportunities**

- Sponsorship may result from this joint venture into other areas of Nature conservation or CALM projects
- The money that can be saved through a joint venture can be spent on the expansion of the Western Shield program

### **Threats**

- The private company may want control over the intellectual property on the development of the Pro-bait and possibly “Eradicat” in the future if we use money saved to further research and develop the cat bait.
- There is always the possibility of the joint venture going “sour”. For example there may be differences in agenda, an incongruence in each parties objectives and partnership interactions all have the ability to destroy the project and therefore limit the Western Shield program.

## **5. CALM COMPLETES RESEARCH AND DEVELOPMENT PRO-BAIT AND THEN SELLS THE PRODUCT TO THE PRIVATE SECTOR.**

### **Scenario description:**

CALM completes the research and development of Pro-bait to a point that the product is suitable for operational use. The Pro-bait product and associated infrastructure/capital is then sold completely to an interested private party that then supplies and sells this product to CALM and other markets at its own discretion.

### **Strengths**

- Sell all capital invested and return the proceeds to CALM for other Nature conservation works
- There is less of a potential for conflict over competitive neutrality through the involvement of a private company
- Minimises CALMs concerns for complications that may occur in the bait production process and reduced capital outlay

### **Weaknesses**

- The risk of selling to a monopoly supplier may increase CALMs purchasing costs, through increases in the price of the bait
- CALM staff who have been involved and committed to the project may feel undervalued and potentially may have a negative impact on morale

- CALM lose the ability to recover our research and development costs to date
- Decreased quality control once sold to the private sector
- It becomes more difficult to undertake further research and development into cat baiting

### **Opportunities**

- Our staffing resources can be focussed into other CALM nature conservation programs

### **Threats**

- The costs to CALM by a single supplier may become intolerable and the Western Shield program placed in jeopardy
- No guarantee of the company being successful in the supply of the bait to CALM's standards, or the company may go out of business.

## **6. CALM SELLS RESEARCH AND DEVELOPMENT OF PRO-BAIT NOW.**

### **Scenario description:**

CALM seeks an interested party to buy the research and development of Pro-bait that has been progressed to date. The expectation/arrangement would involve a private party completing the final stages of Pro-bait development for operational requirements and then supplying departmental bait demands. This option allows the private party to commercialise and to establish other potential markets other than CALM.

### **Strengths**

- Will not have to deal with council rezoning decisions in the future. A rezoning decision may see the bait production facility having to move which may be a relatively expensive exercise.
- There is no potential loss of money and time if we put the Pro-bait forward for registration again (which requires further research and development) and we don't get it.
- We can sell the equipment and intellectual property (which may produce royalties in the future) and this money can be invested into the Western Shield program.
- There can be no political objection from the private sector if we sell now. (Government has an outsourcing policy and we will not be any competition to a private firm interested in producing the DMB)

- Landowners will still be able to purchase the DMB for their personal use, where as they may not be able to if CALM produce it.

### **Weaknesses**

- No control over the quality of the DMB if AgWA sell it off to the private sector.
- No control over the price of the DMB if AgWA sell it off to the private sector.
- Current employees working on the Pro-bait project may feel undervalued. Hard work over the past 2 years has been for nothing. Seeing a project through to its fullest will give employees a sense of achievement.
- If we sell the idea to private industry now they will buy all of the equipment and have access to intellectual property which may make the research and development into the cat bait a lot more difficult to undertake.
- A loss will have to be accepted if the equipment is sold due to its depreciation.

### **Opportunities**

- The opportunity is there to establish a good relationship with a private industry organisation that may benefit CALM in the form of sponsorship, advertising etc.
- This may produce a source of income from royalties that can be injected straight back into Western Shield.

### **Threats**

- CALM may have to accept that private industry will increase the cost of the DMB.
- There is no guarantee of the quality of the DMB.
- Reliability of supply is a problem as baiting times are crucial and production is now in someone elses hands.
- The organisation that takes over production may not even be successful. They may go out of business and CALM is left with no bait whatsoever.



## **7. STATUS QUO: CONTINUE TO USE THE DRIED MEAT BAITS (DMB) FROM AN EXTERNAL SOURCE (CURRENTLY AgWA).**

### **Scenario description:**

CALM continues to buy the existing dried meat baits (DMB) from external sources. Bait supply for CALM's Western Shield program is currently from AgWA. If CALM continued to source its baits with a multiple year guarantee of demand, bait supply would be expected to be outsourced by AgWA to a privateer. A privateer has already been determined by AgWA to produce DMB, under licence, using the existing production facilities on AgWA estate in Forrestfield. Final agreement of the licence has been suspended and remains largely dependent on a written multiple year guarantee of demand by CALM.

### **Strengths**

- The use of the dried meat bait currently meets Western Shield requirements
- The bait currently exists and has been registered by NRA
- No further capital investment from CALM

### **Weaknesses**

- Pricing from AgWA continues to rise and therefore restricts the area that can be covered by the Western Shield program
- Quality consistency is variable with reference to the dosage rate of 1080 being injected into the bait
- AgWA is in the process of outsourcing the supply of DMB and renegotiations with private enterprises are ongoing.
- There is no guarantee that bait costs won't increase
- Continuity of bait supply may be at risk
- The current capital, time and money invested into the research and development of Pro-bait is lost
- The DMB process is very labour intensive and kangaroo meat is not used efficiently
- The future research and development of "Eradicat" may be limited

### **Opportunities**

- CALM resources are not committed to bait manufacture and are available for application elsewhere

### **Threats**

- A private bait supplier is subject to market forces which may impact on their ability to run as a viable business.
- The threat of a monopoly supplier as the market will only support one supplier.

## **8. OTHER AVAILABLE PRODUCTS CURRENTLY ON THE AUSTRALIAN MARKET.**

### **Scenario description:**

Other 1080 bait products currently available on the Australian market were investigated for their potential suitability for use by CALM's Western Shield program. Inquiries were made to relevant conservation and management agencies in New South Wales, Victoria and Queensland. Wet (fresh) meat baits, cooked meat or liver and a commercially available product called "Foxoff" (Applied Biotechnologies, Victoria) are used.

SWOT analyses for wet and cooked meat baits were not conducted given that they were clearly not viable options available to CALM. Only the commercially available 'Foxoff' bait is analysed here.

### **Strengths**

- No further investment is made into the current research and development of the Pro-bait.
- We can sell the equipment that has bought and used for the research. This includes the mincer, mixer, sausage machine, digest cooker, toxin pump, bowl cutter, cold store refrigeration unit etc. This equipment is relatively expensive and a substantial loss will have to be accepted.
- We can sell the intellectual property associated with the research and development of the Pro-bait. This may be quite lucrative particularly if we sell off the additional research and development into the catbait (Eradicat).
- Foxoff is of a consistent quality.

### **Weaknesses**

- Foxoff is not safe for non target species. This poses a problem for many of our endangered species. The survival of the Western Shield program is dependent on the specificity of the bait.
- Foxoff is not suitable for aerial baiting. The bait needs to be buried as it is non target specific.

- Cost is very expensive at 90 cents per bait.

### **Opportunities**

- We may be able to help develop Foxoff specifically for Western Shields requirements. This could lead to a saving on our own time, money and effort.
- Registration has already been approved by the NRA. We would not require to re register the product therefore a time saving.

### **Threats**

- There is the potential for a rising number of extinctions to occur of native species as it is not as non target specific as the DMB.
- The cost is not set. This may increase over time as freight costs increase etc.
- Reliance on a monopoly supplier. The issues involved with this will include cost and supply uncertainty if they go out of business
- We have no option for contingency storage

## Appendix 3

### DEFINITIONS OF CRITERIA USED IN **TABLE 1**. SELECTION CRITERIA MATRIX

#### **Bait compliance with Western Shield requirements**

**Baits are effective for fox control:** The baits must effectively and humanely kill foxes.

**Baits are target specific (relatively safe for non-target native fauna):** The baits should not be suitable for ingestion by native fauna in sufficient quantity so as to endanger them. That is, the concentration of poison should be sufficient to kill foxes, but not native fauna, which display a natural tolerance to low doses of 1080 poison. The shape, size and hardness of the baits must also be suitable for foxes to select them, but too large and hard for smaller native fauna to ingest enough to be dangerous.

**Baits are suitable for aerial delivery:** The Western Shield program relies on aerial baiting of large areas, and hence the baits must be suitable to be dropped from a great height, and to survive the impact undamaged.

**Baits have a shelf life of 3 months or more:** The size of the Western Shield Program results in the need to have adequate baits on hand to complete the planned baiting program, without delays. Consequently, baits must be able to survive for a period of 3 months or more, without the quality being compromised.

Baits have a consistent shape and size: Consistency in both size and shape will allow for the aerial and ground delivery of the baits to be automated, thus allowing a more efficient use of resources.

#### **Compliance with government legislation, regulations and policy**

**Bait has, or is likely to obtain, National Registration Authority approval:** In order to be used in Western Australia, the bait must be able to be registered with the National Registration Authority. Without registration, baits will not meet government legislative requirements.

#### **Secure supply of baits**

**The future supply of baits is likely to be secure:** The Western Shield Program relies on the provision of 800,000 baits per annum, to meet its current program. An inability to obtain baits would result in the program being delayed or cancelled, which could have devastating effects on the targeted native fauna in areas currently covered by Western Shield.

**CALM has at least some degree of control over the supply of baits:** The ready supply of suitable baits is critical to the success of the Western Shield program. Without any control over the supply of baits, CALM becomes very vulnerable if the supply of baits becomes unavailable. If CALM has some

degree of control over the supply of the baits, it is in a better position to ensure ready supply continues.

### **Affordability of baits**

**The current program of Western Shield is able to be maintained (bait price must not exceed 74c per unit):** The Dried Meat Baits currently being used in the Western Shield Program are purchased at a cost of 74c per unit. Hence, an increase in the price of baits will result in fewer baits being purchased, for the same level of resourcing, leading to a reduction in the area baited under the Western Shield Program. If bait prices remain at 74c per unit, the Program will be maintained at current levels.

**The bait price per unit is likely to remain stable (CPI-linked increases only):** It is unlikely that additional resources will be made available for bait purchase. Thus, any increase in price will result in a reduction from the current level of the Western Shield Program. If bait prices are not stable, then the number of baits purchased each year is likely to drop, leading to a corresponding reduction in the Western Shield Program.

**The current program of Western Shield is likely to be exceeded (bait price must be less than 74c per unit):** If baits are less than 74c per unit, then the number of baits purchased using current resources will increase, leading to a corresponding expansion of the Western Shield Program.

### **Benefits to CALM**

**Complimentary R&D on “Eradicat” and other baits will continue:** If CALM is involved with the development of an alternative fox bait, it is possible that the organisation could continue the research into a suitable bait for cats (Eradicat), which could have enormous benefits for protecting our native fauna. The development of “Eradicat” has been “piggy-backing” on the development of “Pro-bait”, to date.

**Opportunity to improve the efficiency of use of current District staff:** The workforce of CALM is subject to seasonal demand. There are periods of peak demand that cannot be satisfactorily supported and troughs that leave the workforce under utilised. The work demand for the bait factory is also periodic but flexible enough to offer CALM an opportunity to even out the peaks and troughs in seasonal labour demand with useful work focused on key nature conservation outcomes.

**Opportunity to produce revenue for CALM from the direct sale of baits, or under licence agreement:** It is possible that any revenue earned by CALM through the sale of baits manufactured by CALM, or in partnership with another organisation, could be reinvested into the Western Shield Program, or into another area within CALM, allowing the program to be expanded.

### **Critical Success Factors**

The matrix shows a number of criteria that have been highlighted. These represent the critical success factors, i.e. those criteria that are essential for the success of the Western Shield program. The criteria not highlighted are highly desirable characteristics of the bait, which would be beneficial to the program, but are not essential. Any bait that failed to meet any of the critical success factors has been deemed to be unsuitable for the Western Shield program, and hence were withdrawn from consideration.

## Appendix 4

### Personnel consulted in developing and evaluating options

Keiran MacNamara Acting Director, Sustainable Forest management Division, CALM  
Godon Wyre Acting Director, Nature Conservation Division, CALM  
Alan Walker Director, Regional Services, CALM  
Mark Neilson Financial Branch, CALM  
Keith Morris Biodiversity and Conservation Group Manager, CALMScience, CALM  
John Kruger Contract Administrator, Central Forest Region, CALM  
John Asher Environmental Protection Officer, Central Forest Region, CALM  
Rob Brazel Nature Conservation Officer, Mornington District, CALM  
Bruce Withnell Overseer, Mornington District, CALM  
Peter Lillyman Financial Services, CALM  
Greg Bengel Financial Service, CALM  
John Byrne Director, Corporate Services, CALM  
Clyde McGaw - Policy Officer (Pest Animals) Land Protection  
Department of Natural Resources, Queensland.  
Stefan Kaiser - Pest animal officer (Gippsland region)  
Natural Resources and Environment, Victoria  
Paul Mahon - Fox Threat Abatement Plan  
National Parks and Wildlife Service, New South Wales.  
Des Klass - Consultant  
Graduate School of Management  
Curtin University, Western Australia

**Appendix 5.**

**Appendix 5.**

**THE MAIN SUMMARY POINTS OF GOVERNMENT LEGISLATION AND POLICIES POSSIBLY RELEVANT TO FOX BAIT OPTIONS FOR CALM: FACTORS CONSIDERED BUT FOUND NOT CRITICAL.**

**Trade Practices Act (TPA)**

- Promotes fair competition in the market and protects consumers from anti-competitive conduct and unfair trade practices.
- **Conduct absolutely prohibited by the TPA includes,**  
**Price Fixing**  
**Primary Boycotts**  
**Misuse of Market Power**  
**Third Line Forcing**  
**Resale Price Maintenance**
- Conduct only prohibited if it “Substantially lessens competition” includes,  
Exclusive Dealing  
Anti-competitive Agreements  
Mergers and Acquisitions  
Secondary Boycotts
- 3 mechanisms exist for authorising certain anti-competitive conduct, subject to it being proven for the “public benefit”

**State Trading Concerns Act:**

- Prevents Government from behaving like a business
- The Act has effectively been repealed and therefore is of no issue to the Fox Bait Project (FBP)

**National Competition Policy:**

- **A federal policy agreed to by the States**
- Includes The Competitive Neutrality Principle (CNP) which is a policy not a law
- CNP states that Government business should not enjoy a net competitive advantage simply as a result of their Government ownership (ie. Government does not exercise unfair cost advantages). In other words this is the ‘Principle of Fair Play in pricing’
- CNP is often erroneously linked with Trade Practices Act (TPA), Complaints and unfairness. It is NOT part of the TPA
- Competitive Neutrality Principle (CNP) formally applies to “significant government business activities” (usually greater than \$10m annual revenue/turnover or asset base), but importantly is judgement based.
- Unofficially CNP can apply irrespective of the size of the activity
- In principle there is no problem with CNP if CALM produces baits for its own use. As soon as CALM supplies baits externally the CNP will apply.



Excerpts from the CALM TPA Compliance Manual relating to CNP

- CNP asserts that the Government activity should not disadvantage the community. ie. CNP “should only be applied if there will be a net public benefit to the community from so doing, ie. the public benefits arising from applying the principle will exceed and resulting public losses or costs” TPA, Section 12. TPA Complaints, TPA Complaints and the Competitive Neutrality Principle, para.6 (pp35).
- Both “commercial equity and prudence combined with “user pays” approach suggests that as a general rule government prices should recover the “full costs” of goods and services supplied” TPA, Section 12. TPA Complaints, TPA Complaints and the Competitive Neutrality Principle, para.7 (pp35).
- “[S]ubject to specific factors such as market conditions and community service obligations (CSO's), CALM's interpretation in respect of competitive neutrality is that unless otherwise justifiable in terms of an identifiable net “public benefit”, all revenue generating commercial activities should normally charge full cost recovery prices which include notional allowances for those costs not usually met by government agencies, eg. federal, state and local government taxes and charges (excluding income tax), and services received free of charge such as audit.” TPA, Section 12. TPA Complaints, TPA Complaints and the Competitive Neutrality Principle, para.8 (pp35).

**Government Trading Enterprising Policy**

- Applies to budget constraints and the generation of income
- If CALM were to produce probait and sell outside of the Department, who would CALM be competing against?
- More detail needed to determine the extent of relevance to CALM options

**State Supply Commission Act**

- Addresses the provision for the disposal of surplus goods
- More detail needed to determine the extent of relevance to CALM options

**Poisons Act 1964**

- Provides the ‘Licence to Manufacture and Wholesale Poisons’, administered by the Health Department of Western Australia
- A copy of Section 24 of the Poisons Act which relates to 1080 and a Copy of the ‘Code of Practice on the Safe Use and Management of 1080’ were briefly examined.

**Federal Agricultural and Veterinary Chemicals Code Act**

- The National Registration Authority administers this Act
- NRA registration is critical to the use of any 1080 poison bait by CALM.

### **The Nature of AgWA Invitations to the Public for DMB Production Outsourcing**

- There was a need to determine what the stated and actual involvement/interaction there has been by CALM with the AgWA outsource invitations process to identify whether there are any grounds for complaints or compensation by a potential awardee if CALM were to source their baits from else where (ie what are the terms of the public invitations process).
- A copy of a "Request for Proposals" to the "Lease of Bait Production Unit" (West Australian 20/3/99) and associated AgWA documentation supplied to prospective bidders includes the statement " CALM will be required to obtain their animal pest control products from source(s) other than AGWEST (although they may continue to take delivery from the existing bait production buildings in the event that they are leased to a private manufacturer).....AGWEST provides no express or implied warranty as to the accuracy of CALM's estimated bait numbers for 1999/2000 or future years" R. Armstrong is provided as a contact for further details.
- Nothing was found that was thought could hold CALM liable if it were to source baits from somewhere other than the AgWest bait production facilities

**Other examples of Revenue Generation within CALM include,**  
Harvey Drying Kilns,  
Ibis Ecotourism,  
Landscape Tours,  
Plantation Developments, (e.g. Western Blue Gums, Maritime Pine)  
The Manjimup Nursery (Plant Propagation Centre).