

NATIONALLY AGREED STANDARD OPERATING PROCEDURE (NASOP)

Title: Determining whether an EAD can be eradicated

Version: 1.1

Prepared by: Subcommittee for Emergency Animal Disease

Approved by: Animal Health Committee

Revision history:	Version	Date of approval	Comments
	1.0	28/04/09	AHA website
	1.1	02/05/11	Approved by AHC

NASOPs support national consistency and provide guidance to response personnel undertaking operational tasks.

1. Purpose

- To assist an affected jurisdiction and Consultative Committee on Emergency Animal Diseases (CCEAD) to determine the eradicability of an Emergency Animal Disease (EAD) outbreak.

2. Application/Scope

- When an EAD is detected in Australia, CCEAD and the Chief Veterinary Officer (CVO) of the affected state must decide whether to attempt eradication of the disease. The economic or human health impacts of some emergency animal diseases are so great that eradication measures should commence immediately and proceed while a more thorough assessment is made.
- This NASOP is most useful in the very early stages of an outbreak, covering the investigation and early operational stages, but may also be of assistance when reviewing the progress of the campaign.

3. Resources/equipment

- The planning section within the State Coordination Centre (SCC) of the affected state/territory should be adequately staffed and equipped in relation to the importance of the outbreak and skills balance needed to complete the process.
- Access to the latest literature and experts on the disease involved.

4. Warnings

- Usual operations centre OH&S risks associated with working under pressure and for long hours.
- The need to consult appropriately during formulation of viable options is most important.

5. Description of activities

Methodology for deciding whether an Emergency Animal Disease outbreak is eradicable

- When an EAD is detected in Australia, CCEAD and the CVO of the affected state/territory must decide whether to attempt eradication of the disease.
- CCEAD and the CVO must first determine whether eradication measures should proceed immediately. The criteria for inclusion in this group of urgent eradicable diseases include:
 - eradication is recommended in AUSVETPLAN
 - it appears that the outbreak may have been detected in the early stages
 - there is potential for rapid spread or establishment in reservoirs
 - the impact of the disease in economic, environmental or human health terms could be high.
- Examples of such diseases are foot and mouth (FMD) disease and highly pathogenic avian influenza (HPAI).
- The process of determining eradicability
 - List all possible strategies
 - Use the flow charts, influence diagram and appendices to analyse each possible strategy
 - Develop strategies further where necessary ensuring all factors are considered
 - Consult with stakeholders
 - Record the decision making process and make a recommendation to CCEAD
 - CCEAD considers options in consultation with stakeholders and makes recommendations to the National Management Group for the EAD
 - NMG makes final decision

Definitions

Eradication: assists declaration of freedom from disease for Australia, a zone within Australia, or a compartment within the relevant industry in Australia.

Short term eradication: eradication is successful but there is a relatively high chance that the disease will recur, for example where a disease is eradicated from commercial animals but a wildlife reservoir is still likely to harbour infection.

Long term eradication: eradication is successful and there is a relatively low chance that the disease will recur.

6. References

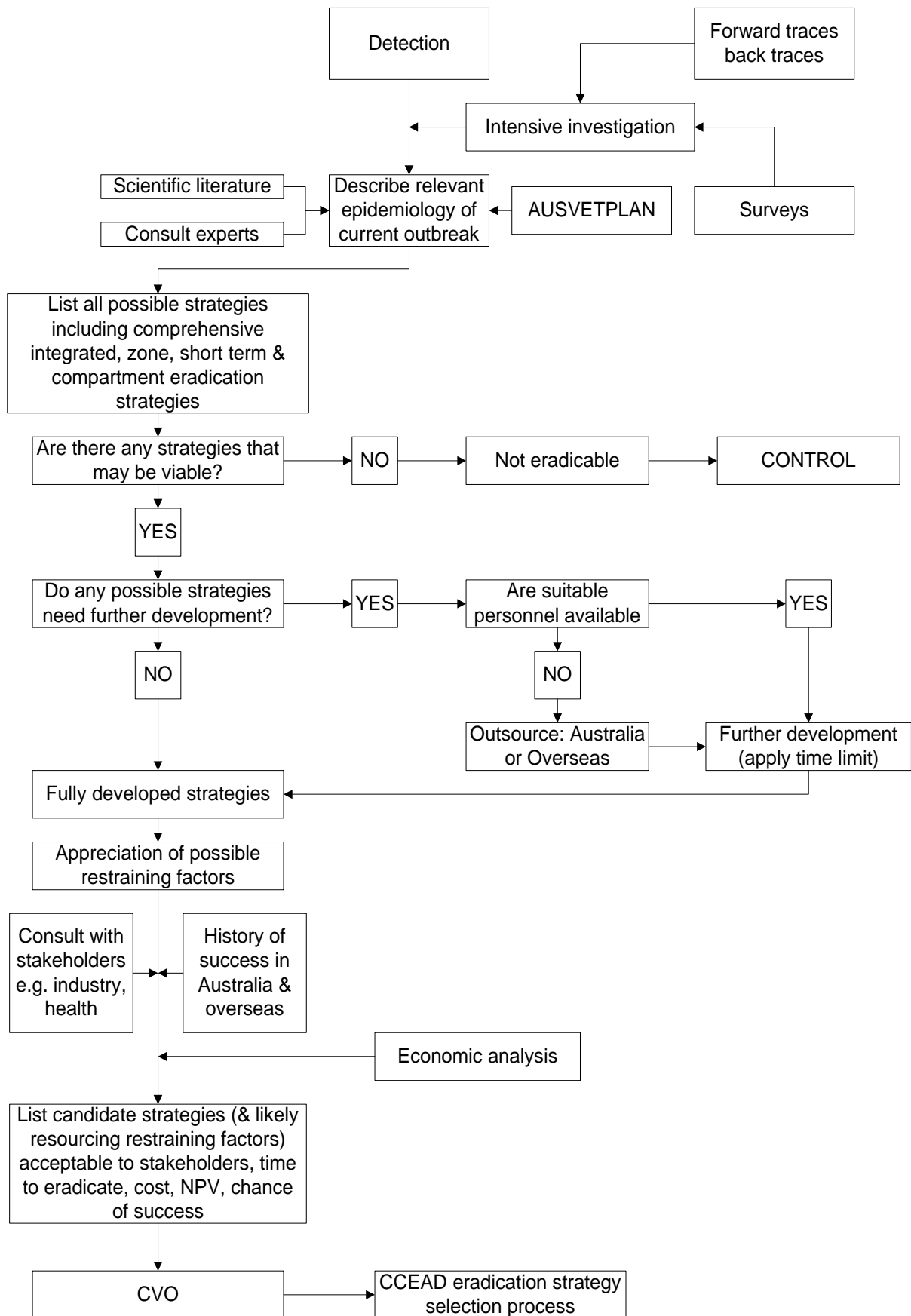
- AUSVETPLAN Management manual:
 - Control centres management Part 1: Management and organisation of control centres (Version 3.1).
 - Control centres management Part 2: Role descriptions (Version 3.0).
 - AUSVETPLAN manuals are available at http://www.animalhealthaustralia.com.au/programs/eadp/ausvetplan_home.cfm

7. Appendices

- Appendix A. Figure 1: Eradication strategy development process (planning section)
- Appendix B. Figure 2: Eradicability / eradication strategy selection process (CCEAD)
- Appendix C. Figure 3: Influence diagram – critical factors affecting outcome of an outbreak
- Appendix D. Supporting notes

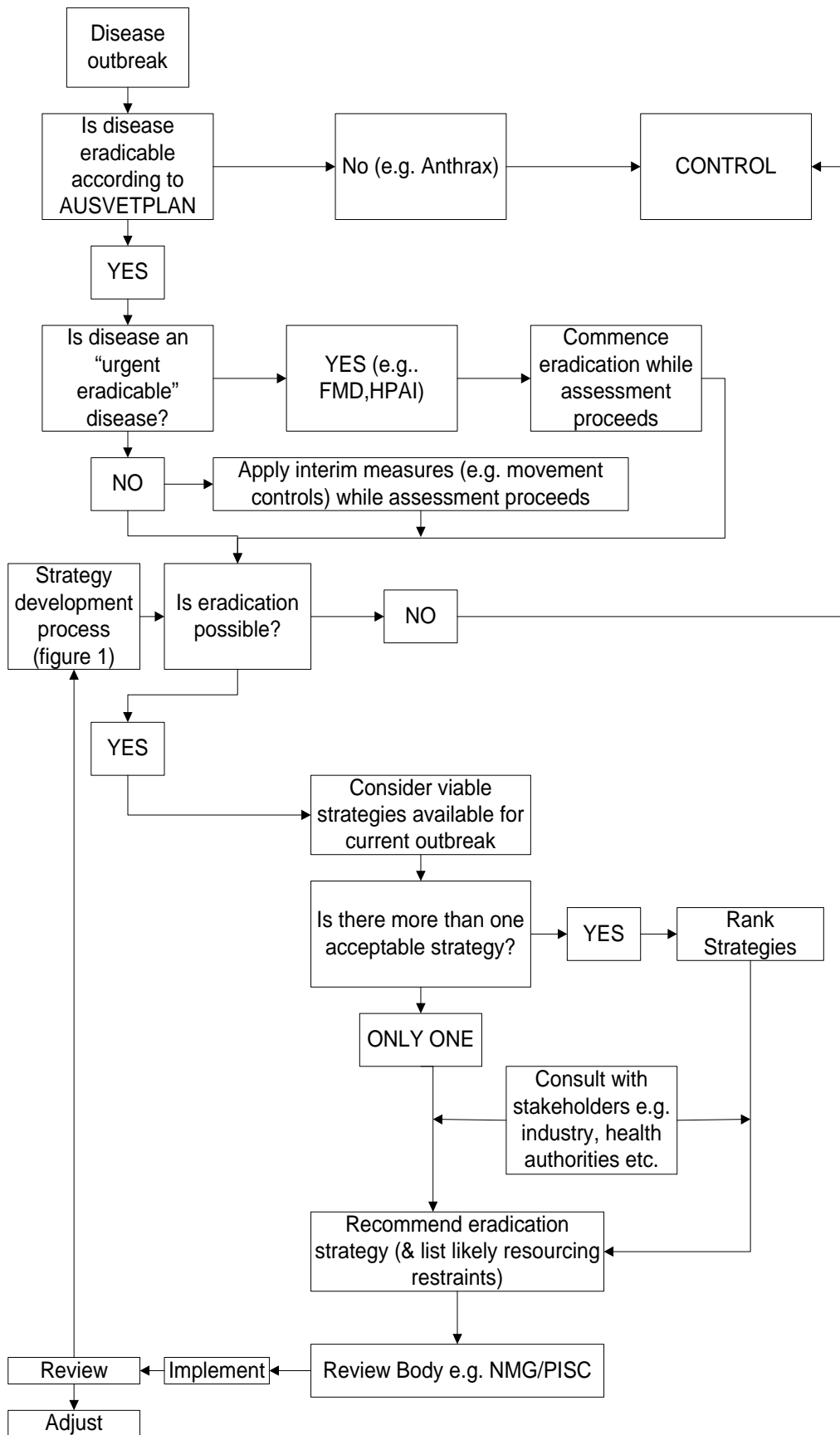
APPENDIX A

Figure 1: ERADICATION STRATEGY DEVELOPMENT PROCESS (Planning Section)



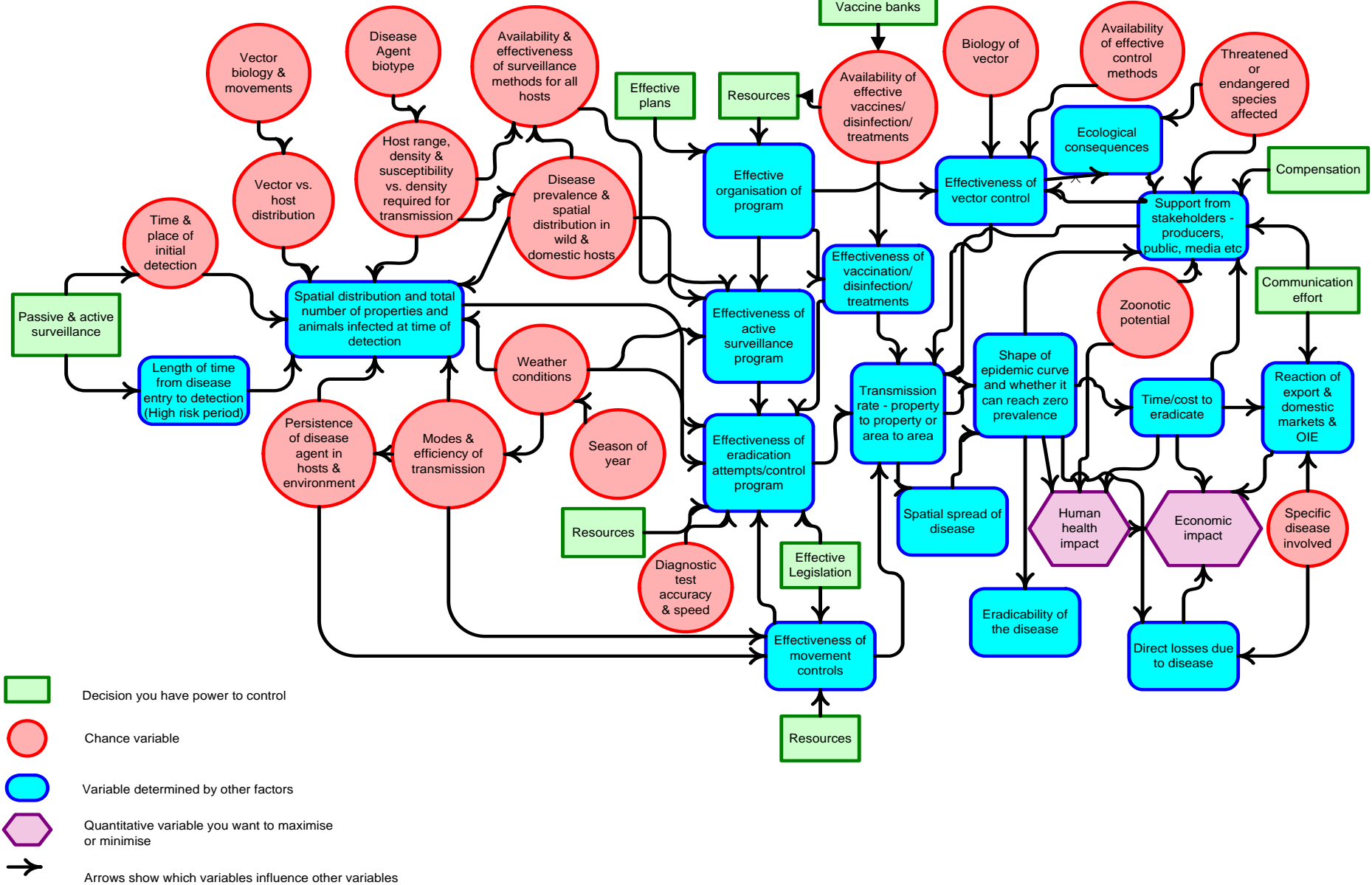
APPENDIX B

Figure 2: ERADICABILITY/ERADICATION STRATEGY SELECTION PROCESS (CCEAD)



APPENDIX C

Figure 3: INFLUENCE DIAGRAM:- CRITICAL FACTORS AFFECTING OUTCOME OF AN EAD OUTBREAK



APPENDIX D – Supporting Notes

1. List possible response strategies

Strategies which could be considered could include:

- no action
- movement controls/restrictions alone
- environmental hygiene
- biological control (including sterile insect release)
- vector control
- vaccination to live
- vaccination followed by depopulation
- drug/disinfectant treatment (eg dipping, feed medication, mass treatment)
- test and slaughter (+/- some whole premises depopulation)
- stamping out - depopulation of Infected Premises (IPs) and Dangerous Contact Premises +/- all premises within certain radius of IPs
- compartmentalisation
- zoning
- short-term eradication
- comprehensive integrated strategies

Note: most strategies will be combined with movement controls/restrictions, extension/education

Short list feasible strategies

2. Consider key success factors for feasible strategies

Free-flying vector-borne disease

- can enough infected vectors or hosts be eliminated in time?
- can enough susceptible hosts be eliminated/protected in time?

Can disease be excluded/eliminated from wild animal or inanimate reservoirs?

Will movement controls/restrictions be effective?

Is the disease already too widely distributed?

Are effective vaccines/drugs/disinfectants available?

Will surveillance be effective?

- will infective hosts display suggestive clinical signs or will a screening process work?

- will enough hosts be accessible?
- will animal identification and trace back systems be adequate?
- do available tests have acceptable sensitivity and specificity?

Can disease agent life cycle be effectively broken?

Compartmentalisation - can domestic/commercial animals be protected from contact with reservoirs?

Note: This process should not be delayed by the lack or incomplete nature of the epidemiological information available.

3. Need for further strategy development

Strategies may need to be further developed/modelled but need to consider:

- what personnel are available to further develop the strategies
- what is the time limit for further development of strategies/models

This process should result in a short list of technically feasible candidate strategies.

4. Conduct appreciation of possible restraining factors for candidate strategies

List other possible restraining factors which could affect acceptance of candidate strategies. Restraining factors may include:

- animal welfare
- threatened or endangered species affected
- likely level of cooperation from all parties directly involved with relevant species
- trade and market responses eg accept product from vaccinated animals
- level of political support
- likely media/public reaction
- lack of critical resources eg skills, manpower etc
- possible impact on other industries eg tourism
- key groups capable of disrupting eradication program
- likely weather patterns
- adequate legislation
- adequate compensation
- ecological consequences (eg of insecticide used in vector control programs)

Consult with relevant groups to determine whether any of these factors are likely to prevent successful eradication. Some candidate strategies may be eliminated at this stage.

NOTE: Do not eliminate any strategy due to lack of critical resources at this stage. Just note for consideration by CCEAD/NMG.

5. Consider history of success or failure of candidate strategies

The history of success of candidate strategies can be a guide but key epidemiological factors can vary between countries and over time. Therefore the following should be considered:

- history of success in Australia
- history of success overseas
- reasons for increasing or decreasing likelihood of success in current situation
- is reintroduction of disease likely
- can successful eradication be readily demonstrated to markets, OIE etc
- estimated chance of long-term success and re-entry to markets

6. Economic analysis

All candidate strategies should be compared to a 'no control' option and an ongoing control program. This will involve some estimates or modelling of epidemic curves under different scenarios to give best and worst case estimates of the direct and indirect benefits and costs.

There will also be social benefits, for example from zoonotic disease eradication, or social costs eg destruction of animals (especially if the species is kept as companion animals) and these will be hard to estimate in dollar terms.

Comparison should be made over a selected time period and discounted, for example using Net Present Value (NPV), Benefit-Cost Analysis (BCA) or Internal Rate of Return (IRR) methods.

7. Final selection

A short list of candidate eradication strategies should be listed in the EADRP along with the estimated likelihood of success, estimated total cost, estimated time to eradicate, NPV or similar, and also the likely resourcing restraining factors (see point 4) and submitted through CVO to CCEAD.

CCEAD may recommend a strategy or strategies to National Management Group/Primary Industry Standing Committee (PISC) as technically feasible.

The NMG /PISC may need to determine whether any of the possible resourcing restraining factors for any given strategy should eliminate that strategy from consideration.

Once selected and implemented the strategy will need to be reviewed at regular intervals and adjusted if necessary. New developments may allow a previously discarded strategy to be employed more effectively.