
National Environmental Biosecurity Response Agreement

2019 Consultation Draft

NATIONAL ENVIRONMENTAL BIOSECURITY RESPONSE AGREEMENT

Date

This agreement is dated

Parties

This agreement is made between the following parties (collectively referred to as ‘the parties’):

Commonwealth of Australia

The State of New South Wales

The State of Victoria

The State of Queensland

The State of Western Australia

The State of South Australia

The State of Tasmania

The Australian Capital Territory

The Northern Territory of Australia

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1 BACKGROUND

1.1 Purpose of agreement

The purpose of this agreement is to establish national arrangements for responses to nationally significant biosecurity incidents where there are predominantly public benefits.

1.2 Interaction with related biosecurity arrangements

- 1.2.1 This agreement is consistent with, and supports the function of, the overarching Intergovernmental Agreement on Biosecurity.
- 1.2.2 This agreement builds on related biosecurity arrangements (as defined in clause 2.2) for Australia and is intended to be consistent with, and to support the function of, those arrangements.
- 1.2.3 This agreement will not displace or replace the operation of any of the related biosecurity arrangements, including those for cost-sharing under pre-existing arrangements.
- 1.2.4 This agreement will be implemented in accordance with Australia's international rights and obligations.

1.3 Scope

To reduce the impacts of pests and diseases on Australia's environment and social amenity this agreement establishes national response arrangements, including for cost-sharing, to be applied by agreement of the parties where there are no existing arrangements.

1.4 Outcomes

This agreement will achieve or promote the following outcomes:

- a) reduce the impact of nationally significant pests and diseases on
 - i. the environment
 - ii. people, including social amenity and human infrastructure
- b) ensure more efficient and timely emergency responses to nationally significant environmental pest and disease incidents
- c) maintain Australia's favourable international reputation
 - i. for being free from many nationally significant environmental pests and diseases
 - ii. for diverse ecosystem sustainability
- d) continued compliance with Australia's international rights and obligations
- e) cost-effective, science and risk-based biosecurity management.

1.5 Intention of the parties not to contract

To avoid doubt, the parties to this agreement maintain that it should not be a legally binding contract but, notwithstanding this, intend to comply with all its provisions.

2 GLOSSARY AND INTERPRETATION

2.1 Existing definitions

Except as set out in clause 2.2, terms used in this agreement have the same meaning as given to those in the SPS agreement.

2.2 Glossary

In this document:

affected, in relation to the parties means the Commonwealth, state or territory parties that are, or may be, directly affected by an incident of a pest or disease as determined by the National Biosecurity Management Group, in the sense that the pest or disease actually or potentially occurs in that party's jurisdiction. In relation to non-government entities it means those entities that the NBMG has determined to be 'affected' and are voting members at the NBMG.

agreement means this agreement and all schedules and attachments to this agreement.

benefit:cost analysis or **cost beneficial** means an analysis having the objectives set out in, and carried out in accordance with, item 5.1 of Schedule 3.

biosecurity is the management of risks to the economy, the environment and the community, of pests and diseases entering, emerging, establishing or spreading.

claiming party has the meaning given to that term in clause 6.2.5.

commencement means the commencement of this agreement in accordance with clause 10.1.

Commonwealth means the party to this agreement that is the Commonwealth of Australia.

Commonwealth land means land:

- a) owned or leased by the Commonwealth or a Commonwealth agency (including land owned or leased by the Commonwealth on Norfolk Island)
- b) in the Jervis Bay Territory
- c) in the following external territories
 - Christmas Island, Ashmore and Cartier Islands
 - Coral Sea Islands
 - Cocos (Keeling) Islands
 - Australian Antarctic Territory
 - Heard and McDonald Islands

and any other land included in a Commonwealth reserve.

Commonwealth waters means waters beyond three nautical miles from the territorial sea baseline to the outer edge of Australia's exclusive economic zone (i.e. all the areas not state waters as defined in the Coastal Waters (State Powers) Act 1980 (Cth) and the Seas and Submerged Lands Act 1973 (Cth), or as otherwise agreed between the Commonwealth and the relevant state or territory.

consensus, means in respect of a decision to be taken on an issue, that none of those persons present when the decision is taken are opposed to it, although:

- (a) persons present during the discussion may have expressed contrary views;
- (b) achieving the consensus may have required a measure of compromise to ensure a workable outcome; and
- (c) some entitled to be present may not be present and some may abstain from participating in the decision.

conservation status has the same meaning as in the Environment Protection and Biodiversity Conservation Act 1999 (Cth).

cost-sharing means the proportional funding of a national response by some or all of the parties, and is determined in accordance with item 2 of Schedule 4.

custodian is the entity that parties to the agreement have assigned set responsibilities for management of this agreement.

disease means the presence of a pathogenic agent in a host and/or the clinical manifestation of infection that has an impact or poses a likely threat of an impact. It includes micro-organisms, disease agents, infectious agents and parasites.

eligible costs means the costs incurred when implementing a national response that are over and above normal commitments and eligible for cost-sharing, as set out in item 3 of Schedule 4.

emergency containment means a set of measures implemented by affected parties as part of a response to a pest or disease. It is intended to restrict the pest or disease to a defined area, and may include the use of quarantine measures, in order to prevent further spread of the pest or disease and preserve the opportunities for eradication of the pest or disease.

emergency eradication response phase has the meaning given in clause 5.2

environment has the same meaning as in section 528 of the Environment Protection and Biodiversity Conservation Act 1999 (Cth).

emergency environmental pest or disease (EePoD) is a pest or disease that, is nationally significant according to the criteria set out in Schedule 2 and meets one or more of the following criteria:

- a) a known pest or disease, which, if established in Australia, would be environmentally harmful and for which it is considered to be in the regional and national interest to eradicate, or
- b) a distinguishable variant of a pest or disease that is established, but not a new incidence of an established pest or disease, which if established in Australia would have a regional and national impact, or
- c) a pest or disease of unknown or uncertain origin, which may, on the evidence available at the time be an entirely new pest or disease and which if established in Australia is considered likely to have an adverse environmental impact regionally and/or nationally.

eradication or **eradicate**, in relation to pests and diseases means eliminating a pest or disease from an area. Eradication is indicated by the pest or disease no longer being detectable (see 'proof of freedom').

established or **establishment**, in relation to pests and diseases means a pest or disease that, for the foreseeable future, is perpetuated within any area and which is deemed not feasible (either technically or as a result of a benefit:cost analysis) to eradicate.

existing cost-sharing arrangement, in relation to an emergency response to a pest or disease means:

- a) the Government and Plant Industry Cost-sharing Deed in Respect of Emergency Plant Pest Responses
- b) the Government and Livestock Industry Cost-sharing Deed in Respect of Emergency Animal Disease Responses
- c) other national cost sharing emergency response deeds that are signed after the commencement of this agreement or are proposed to be developed; and/or
- d) national arrangements in the health sector.

It does not mean existing or finalised responses made under any previous version of this agreement, or responses being considered under any previous version of this agreement at the time of signing.

formal notification occurs when a jurisdiction notifies one of the reporting points, either orally or in writing that an incident has occurred within that jurisdiction. Written notification must be used to confirm oral advice and must be in the form agreed from time to time by the parties.

human infrastructure means the man-made surroundings, including buildings, roads, fixtures, parks and other transport corridors, as well as the housing and residential areas, commercial centres, pipelines and utilities.

impact, in relation to pests and diseases, means the significant negative consequences caused by a pest or disease on:

- a) the environment or an ecosystem, including terrestrial, inland waters and marine environments;
- b) social amenity including negative impacts on human infrastructure or human health, including from zoonoses; and/or
- c) the economy, including negative impacts on human, animal or plant life, or health and relevant abiotic aspects of primary production and/or business.

incident means the occurrence of a confirmed or reasonably held suspicion of an emergency environmental pest or disease that has passed through Australia's border:

- a) detected in or on its original consignment or carrier material, or
- b) has migrated from its original carrier and established in other hosts or host material in Australian territory, and
- c) that was not known to be present in Australia prior to the detection, or if present is subject to an active eradication response; and

d) is not a range extension of an established pest or disease.

incident definition phase has the meaning given in clause 5.1.

international standard setting bodies means the international organisations and subsidiary bodies that develop international standards, guidelines and recommendations that are recognised by the SPS agreement, namely, the Codex Alimentarius Commission, the International Plant Protection Convention, the World Organisation for Animal Health, and the International Maritime Organisation.

ministers means the Commonwealth and State and Territory Ministers responsible for biosecurity responses that are for public benefit.

National Biosecurity Committee or **NBC** means the intergovernmental committee established, independently of this agreement, responsible for biosecurity matters, and tasked with managing a national, strategic approach to emerging and ongoing biosecurity policy issues as set out in clause 8.3. This also means any successor bodies that undertake these roles.

National response, in relation to a pest or disease incident, means an emergency response undertaken in accordance with, and outlined in a Response Plan.

response plan, in relation to an incident of an emergency environmental pest or disease, means a plan outlining emergency response activity that is prepared and approved in accordance with this agreement, may cover one or more phases of a response and may be subject to cost-sharing arrangements.

National Biosecurity Management Consultative Committee or **NBMCC** means the committee established in accordance with clause 8.4 with roles set out in Schedule 7.

National Management Group or **NMG** means the group established in accordance with clause 8.5 and having the roles set out in Schedule 6.

national significance or **nationally significant**, in relation to a pest or disease means that the NMG has determined, in accordance with Schedule 2, that it meets the national significance criteria.

national significance criteria means the criteria set out in Schedule 2.

non-government entity has the meaning given at Schedule 6 clause 4.3 (b) (v).

notifying party has the meaning given to that term in clause 6.2.1.

pest means any species, strain or biotype of the Kingdoms Animalia (excluding human beings), Plantae, Fungi, Monera or Protista that have an impact or pose a likely threat of having an impact.

phylogenetic distinctiveness, in relation to a species means:

- a) the distinctness of a species from other, related species; or
- b) a species not closely related to other species that may have a distinct or important genetic inheritance of conservation significance.

preparedness, in relation to pests and diseases, includes arrangements to ensure that, should an incident occur, all the necessary resources and services can be efficiently mobilised and deployed.

prevention, in relation to pests and diseases, includes regulatory and physical measures to ensure that incidents are prevented or their impacts mitigated, and includes pre-border, border and post- border activities.

primary production means cultivating, harvesting, rearing, farming, collecting, catching or producing animals, plants or fungi for commercial gain.

proof of freedom means that:

- a) surveillance activities carried out by the parties in accordance with the approved Response Plan indicate that the pest or disease has been eradicated and that
- b) the NMG has made a determination in accordance with clause 6.4.7 that the pest or disease subject to a Response Plan has been eradicated.

proof of freedom phase has the meaning given in clause 5.3.

public benefit means the community receives significant benefit from a national response, regardless of whether the benefit is economic, non-economic, environmental or intangible.

[DRAFTING NOTE: NBC consideration is being sought on the definition of range extension through the April 2019 out of session paper

Range extension means a new detection of a pest or disease on either the Australian mainland, including Tasmania, or an external territory, that is:

- a) already present on the Australian mainland, including Tasmania; and
- b) not under an emergency eradication response (where eradication is still considered technically feasible and the response has not moved to a transition to management phase).

A new detection of a pest or disease on the Australian mainland, including Tasmania, that is established on an external territory but not on the Australian mainland, including Tasmania, is not a range extension.

recovery, in relation to pests and diseases, means the restoration of physical, environmental and economic elements as well as psychosocial wellbeing following an emergency response.

related biosecurity arrangements means any biosecurity-related agreements, contracts or arrangements already existing at the time this agreement comes into effect, and include, but are not limited to, the existing cost-sharing arrangements as defined above and deed-like arrangements.

reporting point has the meaning given to that term in clause 6.2.3.

sector means specific biosecurity areas, such as animal health, aquatic animal health, plant health, marine pests, weeds, vertebrate pests, invertebrates and pathogens of the environment, and human health with respect to zoonoses/veterinary public health.

social amenity means any tangible or intangible resources developed or provided by humans or nature such as dwellings and parks, or views and outlooks.

SPS agreement means the World Trade Organization Agreement on the Application of Sanitary and Phytosanitary Measures.

state party means each party to this agreement that is a state of the Commonwealth of Australia.

state or territory party's borders means the stated boundary of the jurisdiction of that party, including all land areas, internal waters and sea areas to 3 nautical miles of the territorial sea baseline, or as otherwise agreed by the relevant state/territory.

surveillance means the systematic investigation, over time, of a population or area to collect data and information about the presence, incidence, prevalence or geographical extent of a pest or disease. Surveillance includes active and passive approaches.

technical feasibility analysis or **technically feasible** means an analysis undertaken in accordance with item 4 of Schedule 3 in relation to the feasibility of a national response on the basis of conclusions reached by using scientific information to evaluate the proposed response.

termination means the termination of this agreement in accordance with clause 12.3.

territory party means a party to this agreement that is the Australian Capital Territory or the Northern Territory.

transition to management means the undertaking of activities for transitioning the management of an emergency environmental pest or disease from seeking to achieve eradication of the environmental pest and/or disease during an Emergency Response Phase to management of the pest and/or disease outside of this agreement.

transition to management phase has the meaning given in clause 5.4.

unanimous, means all Parties or persons entitled to vote on an issue have voted in the same fashion in respect of that issue. Unanimously will have a corresponding meaning.

2.3 Interpretation

In this agreement, unless the contrary is indicated:

- a) the singular includes the plural and vice versa
- b) a reference to one gender includes the other
- c) a reference to a person includes a body politic, body corporate or partnership
- d) a reference to currency is a reference to Australian currency
- e) a reference to an Act is a reference to an Act of the Commonwealth, or a state or territory of Australia, as amended from time to time, and includes references to any subordinate legislation made under the Act
- f) a reference to a clause includes a reference to a sub-clause of that clause
- g) a reference to a specification, publication, Commonwealth policy or other document is a reference to
 - i. that specification, publication, Commonwealth policy or document in effect on the commencement date; or
 - ii. other versions of a document agreed to in writing by the parties.
- h) if a word or phrase is given a defined meaning, any other part of speech or grammatical form of that word or phrase has a corresponding meaning.

3 LEGISLATIVE FRAMEWORK

3.1 General acknowledgments regarding legislative framework

The parties acknowledge that:

- 3.1.1 In accordance with the Australian Constitution, the Commonwealth does not have exclusive power to make laws in relation to quarantine and biosecurity, meaning that Commonwealth and state and territory biosecurity laws can co-exist.
- 3.1.2 Australia's legislative framework for biosecurity includes
 - a) Commonwealth legislation
 - b) state and territory legislationwith each party having responsibilities and obligations in accordance with that framework.
- 3.1.3 Where inconsistencies may arise between state and territory legislation and this agreement, the parties will comply with the state and territory legislation to the extent of the inconsistency.

3.2 Acknowledgements regarding international rights and obligations

- 3.2.1 Nothing in this agreement will affect or alter activities undertaken within Australia pursuant to fulfilling rights and obligations under relevant international agreements, including the right to apply standards, recommendations and guidelines developed by international standard setting bodies.
- 3.2.2 Where the operation of this agreement results in measures that, directly or indirectly, affect international trade, or have the potential to do so, such measures must be developed and applied in accordance with Australia's international rights and obligations, including those contained in the SPS agreement.¹
- 3.2.3 The 1995 Memorandum of Understanding on Animal and Plant Quarantine Measures between the Commonwealth and states and territories sets out the division of quarantine responsibilities between the Commonwealth and state and territory governments to enable compliance by Australia with relevant obligations under the SPS agreement.

4 ROLES AND RESPONSIBILITIES

4.1 Acknowledgements regarding party roles and responsibilities

The parties agree and acknowledge:

- 4.1.1 The roles and responsibilities of other contributors in achieving effective biosecurity (including local government, industry, regional bodies, communities, natural resource management boards, catchment management authorities and natural resource managers, including farmers, fishers, land owners and Indigenous groups)

¹ In such cases, for example, risk assessments could not take into account cultural impacts of a pest or disease incident as these fall outside the scope of the SPS Agreement.

- 4.1.2 That greater clarity is needed on the specific roles and responsibilities of local government and that this should be handled, where appropriate, in subsidiary agreements and arrangements within jurisdictions
- 4.1.3 That, for the purposes of this agreement, this part describes the roles and responsibilities of the parties for working in partnership to achieve national emergency response outcomes specified under this agreement.

4.2 Acknowledgements regarding roles and responsibilities in preparing for and responding to environmental biosecurity incidents

The parties acknowledge that:

- 4.2.1 The states and territories bear primary responsibility for the emergency management of incidents, including preparedness and emergency responses within their borders.
- 4.2.2 The Commonwealth assists the states and territories by
 - a) providing leadership in national biosecurity policy determination
 - b) providing a national coordinating role
 - c) supporting emergency responses to incidents through cost-sharing if they are of national significance and the other requirements in this agreement are met.

4.3 Commonwealth role in preparing for and responding to environmental biosecurity incidents

Commonwealth roles and responsibilities are to:

- a) lead the determination of agreed national biosecurity policy in terms of responses to incidents
- b) participate in, and provide national coordination for, decision-making processes for national responses
- c) coordinate the development and maintenance of cost-sharing arrangements in relation to national responses with state and territory parties and non-government entities, as applicable
- d) be responsible for managing the eradication of pests and diseases on Commonwealth land and in Commonwealth waters, and when they are subject to Commonwealth regulatory action
- e) perform the shared roles outlined in clause 4.5.

4.4 State and Territory Party role in preparing for and responding to environmental biosecurity incidents

State and territory party roles and responsibilities are to:

- a) maintain preparedness arrangements, including capacity and capability, to enable timely responses to incidents of nationally significant pests and diseases
- b) participate in national responses, including cost-sharing

- c) regardless of whether an incident of a significant pest or disease is subject to a national response or is being handled by a state or territory party
 - i. manage the eradication of significant pests and diseases within a state or territory party's borders (including land and waters), where it is feasible and cost-effective
 - ii. respond to incidents of significant pests and diseases where feasible and cost-effective
 - iii. inform other jurisdictions and stakeholders of incidents of significant pests and diseases
 - iv. participate in joint management activities where incidents occur across state and territory border
- d) perform the shared roles outlined in clause 4.5.

4.5 Shared roles in preparing for and responding to environmental biosecurity incidents

Commonwealth and state and territory party shared roles and responsibilities are to:

- a) enact and implement legislation and regulations to help reduce the impact of incidents of nationally significant pests and diseases
- b) contribute to agreed national responses, including cost-sharing
- c) participate in decision-making processes for national responses
- d) contribute to the national capacity to detect and identify pests and diseases
- e) contribute to the national capacity and capability to respond to pests and diseases
- f) contribute to capacity building in incident management, including education, training, research, information systems and other critical infrastructure
- g) develop and implement appropriate standards, policies and procedures to reduce the impact of pests and diseases
- h) increase government agency, industry and community awareness of, and engagement in, incident management and related issues
- i) cooperate to engage with, and negotiate contributions from, non-government entities in accordance with this agreement, as part of preparedness activities and in advance of an emergency response
- j) act in accordance with Australia's international rights and obligations.

5 PHASES OF AN EMERGENCY ENVIRONMENTAL PEST OR DISEASE RESPONSE

5.1 Incident Definition Phase

5.1.1 This is the investigation period which will commence following Formal Notification.

5.1.2 The Incident Definition Phase will continue until either

- a) A Response Plan is agreed by the NMG, following determination by the NBMCC that the Incident relates to nationally significant environmental pest or disease and eradication of the pest or disease is feasible and cost effective and the incident should proceed to an Emergency Eradication phase; or
- b) the NMG, on advice from the NBMCC, determines either:
 - i. that the incident does not relate to an emergency environmental pest or disease; or
 - ii. that it is not technically feasible or cost beneficial to eradicate the pest or disease.

5.1.3 Emergency Containment measures may be implemented during the Incident Definition Phase.

5.2 Emergency Eradication Response Phase

5.2.1 This is the period which may follow the Incident Definition Phase if the NMG agrees to implement a response plan to eradicate a pest or disease.

5.2.2 The Emergency Eradication Response Phase will commence on agreement by the NMG of a Response Plan for an emergency eradication response.

5.2.3 The Emergency Eradication Response Phase will continue until either:

- a) the NBMCC determines that the emergency eradication response should enter a Proof of Freedom Phase; or
- b) the NMG determines (on advice from the NBMCC) that eradication of the pest or disease is not feasible and either:
 - i. that the emergency eradication response should come to an end, in which case the Response Plan will be terminated; or
 - ii. that the emergency eradication response should enter a Transition to Management Phase in which case the Response Plan will be modified to include provisions for the Transition to Management Phase.

5.3 Proof of Freedom Phase

5.3.1 This is the period which may follow the Emergency Eradication Response Phase.

5.3.2 The aim of the Proof of Freedom Phase is to undertake activities to confirm whether the emergency environmental biosecurity pest or disease has been eradicated.

5.3.3 A Proof of Freedom Phase will commence if the NBMCC determines that the emergency eradication response activities set out in the Response Plan have

been successfully completed and the emergency eradication response should enter the Proof of Freedom Phase.

- 5.3.4 The Proof of Freedom Phase will continue until the NMG determines (on advice from the NBMCC) either:
- a) that the pest or disease has been eradicated in which case the Response Plan will come to an end; or
 - b) that the Proof of Freedom Phase should end, in which case the NMG may also determine that the Response Plan should come to an end.

5.4 Transition to Management Phase

- 5.4.1 This is the period that may follow the Emergency Eradication Response Phase.
- 5.4.2 The Transition to Management Phase will commence if it has been determined by the NMG (on advice from the NBMCC) that the emergency eradication response should enter a Transition to Management Phase.
- 5.4.3 The NMG may only make such determination under clause 5.4.2 if it considers that Transition to Management is in the national interest and achievable within a defined and reasonable timeframe as determined by the NMG.
- 5.4.4 The Transition to Management Phase will continue until NMG determines (on advice from the NBMCC) that either:
- a) Transition to Management has been completed; or
 - b) The Transition to Management Phase should end, in which case the Response Plan will come to an end.

5.5 New incidents

Where an incident cannot be directly linked to a previous incident, it will be treated as a new incident and the four Phases described above may apply.

6 NATIONAL APPROACH TO EMERGENCY ENVIRONMENTAL PEST OR DISEASES

6.1 Emergency responses to be addressed under existing cost-sharing arrangements

- 6.1.1 The parties agree that this agreement will not displace or replace any existing cost-sharing arrangements.
- 6.1.2 If an emergency response to a pest or disease can be handled under existing cost-sharing arrangements the parties will agree to do so.

6.2 Notification of an incident of a suspected emergency environmental pest or disease

- 6.2.1 The chief biosecurity officer, chief veterinary officer, chief plant health manager, chief environmental biosecurity officer or equivalent in the jurisdiction in which the suspected incident of the pest or disease occurs will comprise the notifying party.

6.2.2 The notifying party must:

- a) give Formal Notification to the reporting point, as defined in clause 6.2.3, of a confirmed or suspected emergency environmental pest or disease incident within 24 hours of becoming aware of it
- b) take reasonable steps to ensure that people within the affected jurisdiction advise the notifying party of an incident to enable it to notify the relevant reporting point within 24 hours.

6.2.3 The reporting point is a single point for reporting a confirmed or suspected incident of a nationally significant pest or disease and comprises the Commonwealth's Chief Veterinary Officer, Chief Plant Protection Officer and the Chief Environmental Biosecurity Officer.

6.2.4 Once the NBMCC has confirmed the suspected incident it will notify all parties and the reporting point.

6.2.5 The eligible costs incurred by a party (claiming party) in relation to an incident that is or becomes the subject of a national response will not be subject to cost-sharing in accordance with this agreement unless:

- a) the claiming party notified the reporting point in accordance with clause 6.2.2; or
- b) the NMG determines, based on advice from the NBMCC, that the claiming party has acted appropriately and that, despite clause 6.2.2 not having been complied with, eligible costs incurred by the claiming party more than 24 hours before the reporting point was notified of the incident, should be subject to cost-sharing.

6.3 NBMCC to prepare advice to NMG

NBMCC will review the notifying party's assessment of whether the pest or disease incident is of national significance and whether it can be eradicated, and prepare advice for the NMG. In particular, the NBMCC will:

- a) review the pest or disease in the context of the criteria for national significance (in accordance with Schedule 2), and make a recommendation to the NMG regarding the pest or disease incident in relation to this assessment
- b) analyse the pest or disease and the incident and make recommendations to the NMG regarding the technical feasibility of successful eradication of the pest or disease, and the benefit:cost of doing so
- c) make a recommendation to the NMG on the need for and nature of a national response to the incident, taking into account the outcomes of clauses 6.3 (a) and (b)
- d) make a recommendation on the review points required for a national response under item 3(g) of Schedule 4, at which time the NMG may review the ongoing technical and economic feasibility of the response.

6.4 NMG to decide whether a national response is required

6.4.1 Based on its determination, the NMG must decide whether an incident of a pest or disease requires a national response.

- 6.4.2 The NMG may decide, on the basis of advice from the NBMCC, that an emergency eradication response will commence if:
- a) the technical feasibility analysis of the incident indicates that eradication is possible and likely (see Schedule 3); and
 - b) the benefit:cost analysis indicates that it is cost beneficial (see Schedule 3); and
 - c) one or more of the national significance criteria are met (see Schedule 2).
- 6.4.3 The NMG may decide, on the basis of advice from the NBMCC, that a national Transition to Management Phase will commence if:
- a) there has been an Eradication Response Phase; and
 - b) one or more of the national significance criteria are met (see Schedule 2); and
 - c) there is a willingness for the areas free of the pest or disease to be maintained and managed and funded outside this agreement after any transition to management is complete.
 - d) there is a sound understanding of the epidemiology, potential risk pathways and the extent of the incident, suggesting that ongoing management will be effective.
 - e) It is feasible to contain the pest or disease by managing potential risk pathways and geographical areas.
- 6.4.4 If the NMG determines, in accordance with clause 6.4.1, that a national response is required, it must:
- a) determine whether to approve the draft Response Plan prepared by the notifying party and reviewed by the NBMCC; or
 - b) if it does not approve the draft Response Plan, advise the affected parties on an appropriate course of action.
- 6.4.5 In making a determination in accordance with clause 6.4.2 or 6.4.3, the NMG may:
- a) seek and have regard to advice from technical experts
 - b) consider an existing Response Plan
 - c) approve a Response Plan for one or more phases of a national response prior to giving consideration to a plan to achieve eradication. A Response Plan may be approved for any phase, including the delineation of distribution and/or initial containment.
- 6.4.6 To avoid any doubt, the NMG must decide, on the basis of advice from the NBMCC, that an Emergency Eradication Response will not commence if:
- a) the technical feasibility analysis for the incident indicates that eradication is not possible or likely (see Schedule 3); or
 - b) the benefit:cost analysis indicates that it is not cost beneficial to do so (see Schedule 3); or
 - c) none of the national significance criteria are met (see Schedule 2); or

- d) the NMG has not reached a consensus that an Emergency Eradication Response should commence.

6.4.7 The NMG must decide, on the basis of advice from the NBMCC, that an emergency eradication response will not continue if:

- a) it considers that the Emergency Eradication Response has been successful in eradicating the pest or disease; or
- b) it considers that the Emergency Eradication Response has failed to eradicate the pest or disease; or
- c) it has not reached consensus that an Emergency Eradication Response should continue; or
- d) it has been agreed the pest and/or disease is no longer feasible to eradicate and the incident will continue to a Transition to Management Phase.

6.5 **Involvement in NMG decisions**

- a) Determinations by the NMG related to cost-sharing must be made unanimously by the voting members of the NMG that are making a financial, or in-kind, contribution to a national response
- b) All other determinations must be made by consensus.
- c) All NMG members may express views relating to its decisions, which the group must consider.

7 COST-SHARING

7.1 Cost-sharing in accordance with this agreement

Where the NMG has determined, in accordance with clause 6.4, that an emergency response to a pest or disease will be addressed by a national response under this agreement, the cost-sharing will be determined in accordance with this clause 7.

7.2 Cost-sharing formula

7.2.1 Eligible costs associated with a national response, for which there is no non-government entity who is a voting members on NMG, will be shared in accordance with the following:

- a) The Commonwealth's share will be 50 per cent of eligible costs.
- b) The state and territory parties' combined share will be 50 per cent of eligible costs.
- c) Of the state and territory parties' combined share, as calculated in accordance with clause 7.2(d), only those jurisdictions affected by the pest or disease must contribute.
- d) Each state or territory party's contribution is determined by reference to that party's share of the total number of beneficiaries of the national response, according to the following formula:

$$\text{A State/Territory Party's share of the combined investment} = \frac{\text{the number of people in a potentially affected area in that jurisdiction}}{\text{the total number of people potentially affected in Australia}}$$

- e) The total number of people in a potentially affected area of a jurisdiction is determined by assuming that:
 - i. for pest/disease incidents in terrestrial environments, 1 per cent of the jurisdiction's land area potentially affected equates to 1 per cent of the jurisdiction's population
 - ii. for pest/disease incidents in inland water environments, 1 per cent of the jurisdiction's surface water area potentially affected equates to 1 per cent of the jurisdiction's population
 - iii. for pest incidents in marine environments, 1 per cent of the jurisdiction's length of coastline potentially affected equates to 1 per cent of the jurisdiction's population.
- f) When determining the total number of people in a potentially affected area:
 - i. the potentially affected area in a jurisdiction, expressed as a percentage of its total area, determines the risk faced by that jurisdiction

- ii. the potentially affected area is represented by the potential distribution of a pest or disease calculated in accordance with:
 - a. Attachment 4A to Schedule 4 for pest/disease incidents in a terrestrial environment
 - b. Attachment 4B to Schedule 4 (for pest incidents) and Attachment 4C to Schedule 4 (for disease incidents) in inland water environments
 - c. Attachment 4D to Schedule 4 (for pest incidents) and Attachment 4E to Schedule 4 (for disease incidents) in marine environments
- g) the total number of people potentially affected in Australia is determined by the sum of all the potentially affected people in the affected jurisdictions
- h) the population data used for cost-sharing calculations will be the most recently available Australian Bureau of Statistics demographic statistics
- i) for pest or disease incidents in marine environments the Australian population calculated in accordance with clause 7.2(h) will not include the Australian Capital Territory.

7.2.2 Eligible costs associated with a national response for which one or more non-government entities is a voting member of the NMG, will be shared in accordance with the following:

- a) Each non-government entity will contribute a minimum of "X" per cent of the eligible costs.
 - i. Contributions from non-government entity can be either dollar amounts or in-kind contributions that the NMG agrees equate to a specified dollar amount.

[DRAFTING NOTE: percentage of eligible costs to be determined]

- b) The Commonwealth's share will be 50 per cent of the total eligible costs minus the non-government entities contribution.
- c) The state and territory parties' combined share will be 50 per cent of the total eligible costs minus the non-government entities contribution, calculated in accordance with the clauses 7.2.1(c)-(i).

7.3 Eligible costs

7.3.1 Eligible costs are determined in accordance with Schedule 4.

7.3.2 Eligible costs are only those costs that are above and beyond the resource costs of a party that exist for, or are required to carry out, its normal biosecurity commitments (including technical and operational requirements), unless NMG agreed they meet the conditions specified in clause 2.2 of schedule 4.

7.4 Funding a Response Plan

- a) When a Response Plan is implemented each party must:
 - i. initially meet its own costs arising from the implementation of the plan

- ii. meet its cost-sharing obligations.
- b) Subject to an application being made in accordance with clause 7.5, reimbursement (of net payments) between parties is to be made no less than annually (or such other longer period as agreed by the NMG).

7.5 Reimbursement of a party

If a Response Plan is approved a party, including a non-government entity that is a voting member of the NBMG, may apply for reimbursement in accordance with clause 7.10 under the cost-sharing arrangements for eligible costs incurred as a result of:

- a) if the party is the notifying party
 - i. verifying the incident
 - ii. assessing whether the incident is of national significance
 - iii. assessing the technical feasibility of eradication
 - iv. assessing the benefit:cost of eradication
- b) undertaking initial containment activities undertaken in the Incident Definition Phase in accordance with clause 2.2.2 at Schedule 4
- c) undertaking any other activity that is part of the response as set out in a Response Plan
- d) a non-government entity that is a voting member at the NMG cannot be reimbursed for eligible costs associated with contributions provided in-kind.

7.6 Limit on cost-sharing obligation

The obligations of affected parties, with regard to contributing to cost-sharing for a national response, will not apply beyond any caps or limits specified in the Response Plan.

7.7 Initial rapid national response cost-sharing obligations

- 7.7.1 The NMG/s may commit up to \$5 million (in annual aggregate) towards the eligible costs associated with agreed national responses under this agreement.
- 7.7.2 The parties must be in a position to provide their contribution to the amount in clause 7.7.1, determined in accordance with this clause.
- 7.7.3 If the \$5 million for eligible costs is exceeded in any one financial year, the relevant NMG (and any subsequent NMGs) must seek ministerial approval from all parties to continue activities and/or begin new emergency responses.
- 7.7.4 The Custodian will be responsible for monitoring expenditure under this delegation and will report annually to the Commonwealth, State and Territory Ministers responsible for biosecurity matters.

7.8 Contributions by non-government entities

In accordance with clause 4.5(f):

- a) parties acknowledge the challenge of having non-government entities involved in national cost-sharing of national environmental biosecurity incidents

- b) the parties agree that, given the complexities of issues associated with species-specific emergency responses, contributions from non-government entities should be considered by the NMG on a case-by-case basis.

7.9 Accounting for a Response Plan

- 7.9.1 All parties, and non-government entities that are voting members at NMG, must:
 - a) keep records, in auditable form, of eligible costs
 - b) be able to substantiate claims for reimbursement in accordance with clause 7.3 arising from eligible costs incurred for each national response they are involved in.
- 7.9.2 All non-government entities that are voting members of NMG must keep records, in auditable form, of any in-kind activity that has been agreed at the NMG as a contribution that equates to a dollar amount.
- 7.9.3 All parties and non-government entities that are voting members of NMG, must make these records available, in accordance with clause 7.9, when the cost-sharing arrangements are coordinated, as outlined in clause 7.10.

7.10 Coordination of claims for reimbursement

- 7.10.1 The Custodian will coordinate and collate claims for reimbursement, in accordance with clause 7.5, of an affected party's eligible costs arising from a national response and manage:
 - a) the receipt and processing of applications from affected parties for reimbursement of eligible costs
 - b) verification that an affected party has provided the information required to satisfy the NMG that
 - i. the amount of the claim constitutes eligible costs
 - ii. those eligible costs have been incurred by the claiming party in connection with the agreed national response
 - c) the referral back to the NMG for clarification on what constitutes eligible costs if this is unclear
 - d) the reimbursement of an affected party's eligible costs
 - e) records of claims receivable and payable by affected parties in accordance with the cost-sharing arrangements under this agreement, including requesting that records will be kept by the affected parties in accordance with clause 7.9
 - f) keep records of financial and in-kind contributions made by non-government entity.

7.11 Reporting

- 7.11.1 Each affected party must provide, at meetings of the NBMCC, or at other agreed times, a written report in the form of Attachment 4F to Schedule 4, setting out their budgeted, committed and actual expenditure relating to the Response Plan.

7.11.2 The NBMCC must promptly report to the NMG on the progress of a national response and matters requiring NMG consideration.

7.12 Auditing

7.12.1 The NMG may request, at any time, a financial or efficiency audit of the implementation of a Response Plan.

7.12.2 If the NBC or the NMG requests an efficiency audit, the audit will be prepared by an external provider in accordance with item 2 of Attachment 4G to Schedule 4.

7.12.3 If the NBC or the NMG requests a financial audit an external provider will be appointed to:

- a) provide a formal sign-off on any claims or payments made regarding the cost-sharing of eligible costs
- b) have regard to the matters set out in item 3 of Attachment 4G to Schedule 4.

7.12.4 The costs of undertaking activities in accordance with clauses 7.12.2 and 7.12.3 will be classed as eligible costs in accordance with items 2 and 3.5 of Schedule 4.

8 COMMITTEE ARRANGEMENTS

8.1 Institutional structures to support this agreement

8.1.1 The parties agree that this agreement will be supported by national institutional arrangements that deliver consolidated, strategic and timely decision-making.

8.1.2 The parties agree to do their best to ensure that:

- a) their appointed representatives to such bodies and
- b) any of their employees and officers who are given roles or functions under the agreement,
- c) carry out those roles and functions as though they themselves were signatories to the agreement.

8.2 Establishing a National Biosecurity Management Consultative Committee

8.2.1 Upon notification of an incident by the reporting point, the parties will establish an incident specific NBMCC.

8.2.2 The NBMCC established for an incident of a pest or disease will:

- a) advise the NMG on various matters concerning the incident and any resulting national response; and effectively and efficiently coordinate the technical aspects of that response, including the tasks identified in clause 6
- b) be constituted, have roles and objectives, and meet and conduct its affairs in the manner set out in Schedule 7
- c) perform the obligations specified in this agreement in relation to that incident.

8.2.3 The NBMCC will carry out its roles in accordance with Australia's international rights and obligations.

8.3 Establishing a National Management Group

8.3.1 An incident-specific NMG will be convened on the request of any party or on the advice of the NBMCC.

8.3.2 The NMG established for a pest or disease incident will:

- a) be the peak national decision-making forum, through which parties will seek decisions on, but not limited to
 - i. whether the incident is of national significance
 - ii. whether a national response is technically feasible and cost beneficial
 - iii. whether the incident requires a national response
 - iv. agreeing to the Response Plan
 - v. cost-sharing in accordance with the Response Plan
- b) be constituted, have roles and objectives, and meet and conduct its affairs in the manner set out in Schedule 6
- c) perform the obligations specified in this agreement in relation to that incident.

8.3.3 The NMG will carry out its role in accordance with Australia's international rights and obligations.

9 LEGISLATIVE AND ADMINISTRATIVE ARRANGEMENTS

9.1 Review of existing legislative and administrative arrangements

9.1.1 Each party will review its legislation, regulations and administrative arrangements and do their best to ensure they support the commitments in this agreement. The parties will be guided by Schedule 5 in undertaking the reviews.

10 MANAGING THE AGREEMENT

10.1 Representatives of the parties

10.1.1 On commencement of this agreement, each party

- a) will nominate a representative who will be responsible for administering this agreement on behalf of that party
- b) must notify the NEBRA custodian NBC of a change to the party's representative within 30 days.

10.2 Notifications

10.2.1 Each party will notify, through their representatives, any changes to their circumstances relating to this agreement, including, for example, withdrawing from it.

10.3 Custodian of the Agreement

10.3.1 All parties will contribute to the engagement of an entity to undertake the services of custodian of the agreement in accordance with the cost sharing formula set out at Schedule. The entity engaged to act as the custodian and the level of service they provided may change from time to time.

10.4 Schedules to agreement

10.4.1 The schedules to this agreement have the same status as the main part of this agreement.

11 DISPUTE RESOLUTION

[DRAFTING NOTE: consider addition additional sections to the Dispute resolution clause 11 to accommodate the greater likelihood of non-government participation in the NEBRA]

11.1 The Process for resolving disputes

11.1.1 If a dispute arises under this agreement between any or all of the parties, those parties will work together to resolve the dispute using the following procedures:

- a) initial discussions will be undertaken by the relevant officials on the NMG, and will be conducted in good faith and with a view to resolving the dispute
- b) if the dispute is not resolved within 60 days an independent mediator may be employed to assist the disputing parties in resolving the dispute. When undertaking this option the parties will
 - i. agree on a suitably qualified person to undertake the mediation process
 - ii. share any costs for the mediation equally, unless otherwise recommended by the person conducting the mediation or alternative dispute resolution process.
- c) if mediation does not resolve the dispute, the matter will be referred to the ministers responsible for administering the disputing parties.

- d) Obligation to continue to perform
- e) Despite the existence of a dispute each party must continue to meet its obligations under this agreement.

12 COMMENCEMENT AND TERMINATION

12.1 Commencement

12.1.1 This agreement will commence operation on the date it is signed by the Commonwealth and at least one of the state or territory parties.

12.2 Term

12.2.1 The term of this agreement is from commencement until termination.

12.3 Termination

12.3.1 This agreement is terminated if:

- a) there are less than two parties to the agreement; or
- b) the Commonwealth is no longer a party to the agreement.

12.4 Withdrawal from this agreement

12.4.1 If a party wishes to withdraw from this agreement it must give notice to all other parties and such notice must:

- a) state the party's intention to withdraw from the agreement
- b) set out the party's reasons for the withdrawal; and
- c) specify the date on which the withdrawal will be effective; which must be no earlier than six (6) months from the date of the notice.

12.4.2 Parties will remain liable for any obligations in respect of cost sharing arising pursuant to a response plan which has been adopted prior to it giving the notice.

13 AMENDMENTS TO THIS AGREEMENT

13.1 Amendments to be in writing

13.1.1 The parties may vary this agreement only by way of an exchange of letters between all parties through the Commonwealth, State and Territory Ministers responsible for biosecurity matters.

13.2 Counterparts

13.2.1 The written agreement required in accordance with clause 12.1 may be signed in counterparts, and all counterparts taken together will be deemed to form a single, valid amendment to this agreement. Note: a document is signed in counterparts when the parties each sign an identical copy of the document, but do not all sign the same copy.

13.3 Commencement of amendments

13.3.1 An amendment to this agreement will, subject to this clause 12, commence on the date it is signed by the last of the parties.

13.4 Addition of other parties

13.4.1 Parties may be added to this agreement after the date it commences with the consent of the Commonwealth, State and Territory Ministers responsible for biosecurity matters.

13.4.2 The terms of this agreement remain in effect if any other state or territory party is added after its commencement.

14 REVIEW OF THIS AGREEMENT

14.1 Review by biosecurity agencies

The terms of this agreement will be reviewed by the Parties in light of experience of its operation. The review is to commence no more than five years from the Commencement Date and every five years thereafter.

14.2 Report to the ministers

The parties must ensure that, on conducting a review in accordance with clause 14.1, that a report is prepared for the Commonwealth, State and Territory Ministers responsible for biosecurity matters that must include comments on the agreement's implementation and effectiveness—including any recommendations for amendments.

**SCHEDULE 1 – FLOW CHART OF APPROACH TO NATIONAL EMERGENCY
ENVIRONMENTAL PEASE OR DISEASE RESPONSE**

To be developed

SCHEDULE 2 – NATIONAL SIGNIFICANCE CRITERIA

1. National significance

- a) These criteria are only to be used to determine whether a particular pest or disease falls under the scope of this agreement.
- b) These criteria can be used to assess whether a pest or disease is of national significance prior to an incident and/or when an incident has occurred.
- c) A pest or disease is of national significance when at least one of the following national significance criteria are established in relation to the pest or disease, being criteria relating to:
 - (i) the environment
 - (ii) people, including human infrastructure and social amenity.
- d) Impacts on public health and business activity may be used to support the full impact assessment of a pest or disease but do not form part of an assessment of its national significance.
- e) To avoid any doubt, 'impact' in this schedule is defined in accordance with clause 2.2 of this agreement (that is, 'causing significant negative consequences').

2. National significance criterion: environment

2.1. General

- a) The national significance criterion covers the projected impacts of a pest or disease incident on the environment if the pest or disease was to realise its full potential range in Australia.
- b) A pest or disease will meet this national significance criterion if any of the following sub- criteria are established:
 - i. impacts on nationally important species
 - ii. impacts on ecologically valuable species
 - iii. impacts on nationally important places
 - iv. impacts on ecologically important places
 - v. extensive impacts.

2.2. Impacts on nationally important species

- a) A 'nationally important species' is a native species that has a particular significance to the Australian community across the nation because it is:
 - i. relevant to the national identity; or
 - ii. nationally listed; or
 - iii. the subject of an international obligation.

For example, kangaroo species, koala, whale species and painted snipe.

- b) This sub-criterion is met if the pest or disease is likely to have a significant impact on the conservation status of a nationally important species.
- c) The following guideline will help with determining whether item 2.2(b) of this schedule is established:
 - i. An incident of a pest or disease will have a significant impact on the conservation status of nationally important species where it is likely that the incident will or would:
 - A. substantially modify (including by fragmenting habitats, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate a significant proportion of the habitat for a nationally important species; or
 - B. seriously disrupt the lifecycle (including reproduction, feeding/nutrient uptake, migration or resting behaviour) of an ecologically significant proportion of the population of a nationally important species.

2.3. Impacts on ecologically valuable species

- a) An 'ecologically valuable species' is a native species that makes a significant contribution to national biodiversity due to factors such as:
 - i. it being a keystone species, meaning a species that provides an essential role in the ecosystem in which it resides. An example of a keystone species is a species of gum tree that provides an over-storey to a bush ecosystem and hence support for many animals, birds, invertebrates, soil microbes etc; or
 - ii. the phylogenetic distinctiveness of the species. For example, the cassowary, strangler fig, spinifex, Mitchell grass, the Australian salamanderfish and the Australian lung fish.
- b) This sub-criterion is met if the pest or disease would likely have a significant impact on the conservation status of an ecologically valuable species.
- c) The following guideline will help with determining whether item 2.3(b) of this schedule is established:
 - i. An incident of a pest or disease will have a significant impact on the conservation status of an ecologically valuable species where it is likely that the incident will or could:
 - A. substantially modify (including by fragmenting habitats, altering fire regimes, altering nutrient cycles or altering hydrological cycles), displace, destroy or isolate a significant proportion of the habitat of an ecologically valuable species; or
 - B. seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of an ecologically valuable species.

2.4. Impacts on nationally important places

- a) A 'nationally important place' is any place that has a particular significance to the Australian community or because it is relevant to the national identity. For example, nationally important places may include National Heritage Places included in the National Heritage List under the Environment Protection and Biodiversity Conservation Act 1999 and Australian properties included on the World Heritage list.
- b) This sub-criterion is met if the pest or disease would be likely to have a significant impact on the values that make a place nationally important.

2.5. Impacts on ecologically valuable places

- a) An 'ecologically valuable place' is an area that:
 - i. makes a significant contribution to Australia's natural environment; or
 - ii. meets national heritage listing criteria, as set out in the Environment Protection and Biodiversity Conservation Act 1999 and regulations; or
 - iii. are nationally-listed, ecological communities and RAMSAR wetlands covered under the Environment Protection and Biodiversity Conservation Act 1999.
- b) This sub-criterion is met if the pest or disease would be likely to have a significant impact on the national heritage values of an ecologically valuable place.

2.6. Extensive impacts

- a) An 'extensive impact' means severely and/or extensively affecting one or more of the following:
 - i. the physical environment
 - ii. Australian biodiversity
 - iii. the structure of ecological communities
 - iv. ecosystem functions
 - v. environmental amenity
 - vi. ecosystem services.
- b) This sub-criterion is met if the pest or disease would likely have an extensive impact, regardless of whether the pest or disease also meets one of the other sub-criteria with regard to nationally important or ecologically valuable species or places. For example, the following species may meet this sub-criterion: *Didymosphenia geminata* (rock snot) cool water aquatic plant, fanworms (species not yet present in Australia), new weeds that are scientifically assessed as having the potential to cause significant impacts and *Puccinia psidii* (Eucalyptus rust). The following species would not meet this sub-criterion: benign ants and macaw wasting disease (proventricular dilation disease).
- c) It is acknowledged that a pest or disease meeting this sub-criterion may also meet other criteria or sub-criteria.

3. National significance criterion: people, including social amenity and human infrastructure

3.1. General

- a) This national significance criterion is concerned with the impacts of pests and diseases on people, including:
 - i. the inconvenience to people and society caused by the pest or disease
 - ii. the impacts on human infrastructure.
- b) A pest or disease will meet this criterion if one or more of the following sub-criteria are established:
 - i. impacts on human infrastructure
 - ii. impacts on social amenity
 - iii. cultural impacts.
- c) In determining whether a pest or disease meets this national significance criterion the following matters should be considered:
 - i. the severity of the impact
 - ii. the extent of the impact
 - iii. the significance of the resources/assets under threat.

For example, this may include either a catastrophic loss of a resource amenity for a relatively small proportion of the population, or a substantial loss of amenity for an extensive or diverse part of the population.

3.2. Impacts on human infrastructure

This sub-criterion is met if a pest or disease incident has resulted, or would likely result, in substantial damage to or deterioration of infrastructure used by a significant proportion of people over an extensive area.

3.3. Impacts on social amenity

This sub-criterion is met if an incident has substantially degraded, or is likely to substantially degrade, amenity of resources used by a significant proportion of people over an extensive area.

3.4. Cultural impacts

This sub-criterion is met if a pest or disease incident:

- a) has substantially degraded, or is likely to substantially degrade, cultural assets valued by a significant segment of the community
- b) has resulted or is likely to result in substantial change to the practices and customs of a significant segment of the community; or
- c) has resulted or is likely to result in a persistent and substantial negative change in national or international perception of attributes relevant to the national image.

SCHEDULE 3 – RESPONSE PLAN – TECHNICAL FEASIBILITY AND BENEFIT:COST

1. Introduction

- a) This schedule sets out the process to be followed by the notifying party:
 - i. preparing a Response Plan
 - ii. undertaking a technical feasibility analysis
 - iii. undertaking a benefit:cost analysisas required under this agreement, and to be considered by the NBMCC when preparing advice for the NMG.
- b) It also outlines the requirements for managing a Response Plan, as required under this agreement.

2. Developing a Response Plan

2.1. Development of a draft Response Plan by the Notifying Party

When the notifying party is required, under this agreement, to develop a draft Response Plan, the Response Plan must be prepared in consultation with the NBMCC, and in accordance with the following principles:

- a) The requirement to develop and approve a Response Plan must not impede the initiation of a rapid emergency response to an incident of a pest or disease, by the Notifying Party or any other party, required under this agreement.
- b) The response plan must reflect the nature and circumstances of the incident and of the pest or disease.
- c) While the key strategies and core operational components of the response plan must be prepared by the notifying party, some parts will be developed in accordance with a timetable agreed to by the NBMCC.
- d) Any key strategies and core operational activities that are to be subject to cost-sharing must be clearly identified in the response plan.
- e) The content of the response plan must be prepared in accordance with:
 - i. item 3 of this schedule
 - ii. Australia's international rights and obligations, including those contained in the SPS agreement.

2.2. Provision of the draft Response Plan to the NBMCC and NMG

- a) The notifying party must provide the proposed response plan to the NBMCC as soon as possible.
- b) The NBMCC, once it agrees the proposed response plan is fit for purpose and meets the requirements set out in clause 2.1, must submit the plan to the NMG for consideration.

2.3. Effect of approval of the draft Response Plan

When the NMG has approved the Response Plan:

- a) the parties, and non-government entities that are voting members at NMG, become committed to the obligations and activities outlined in the plan, and must implement the plan
- b) any variations or proposed variations to the plan or budget must be approved by the NMG before it can come into effect. For example, the NBMCC may propose a variation to the plan, or a variation may be required because a party's legislation limits their ability to undertake the required activities or the NMG may approve the expenditure of underspent funds from one year be spent in the following year.

3. Response Plan protocol

In addition to the requirements in item 2 of this schedule, a Response Plan must detail all the following matters:

- a) the results of the assessment of the pest or disease incident against the national significance criteria, in accordance with Schedule 2
- b) the results of the technical feasibility analysis carried out in accordance with item 4 of this schedule, or, the preliminary results of the technical feasibility analysis and a schedule for delivery of the final results
- c) the results of the benefit:cost analysis carried out in accordance with item 5 of this schedule, or, the preliminary results of the benefit:cost analysis and a schedule for delivery of the final results
- d) the detail of the actions to be undertaken as part of the response, including identifying the parties that will undertake those actions
- e) recommended approaches for determining proof-of-freedom, including surveillance
- f) the projected budgets and indicative costs, showing both cost shareable and normal commitment components
- g) review points or 'caps' relating to the extent of cost-sharing. A review point may include the occurrence of a new incident of the pest or disease in a different location, the point where an agreed limit of funding has been expended, as well as other indicators of the effectiveness of the response arrangements to date.

4. Technical feasibility

4.1. The objective of the technical feasibility analysis

The objective of the technical feasibility analysis is to determine the technical feasibility of the proposed national response in eradicating the pest or disease.

4.2. Technical feasibility criteria

In undertaking a technical feasibility analysis, all the following criteria must be considered and advice provided:

- a) the capability to accurately diagnose or identify the pest or disease

- b) the effectiveness of the control technique options, including a recommendation on the control technique(s) likely to be the most cost-effective in eradicating the pest or disease
- c) the level of confidence that all individual pest/disease organisms present (including at all life stages) can be removed/destroyed by the recommended control technique(s)
- d) the level of confidence that it is possible to remove the organisms at a faster rate than they can propagate until the population is reduced to a non-viable density
- e) confirmation that the recommended control technique(s) are publicly acceptable (taking into consideration cultural and social values, humaneness, public health impacts, non-target impacts and environmental impacts)
- f) any interim control measures that have been put in place by the notifying party
- g) endemic pest or disease controls that may limit or prevent establishment
- h) any legislative impediments to undertaking an emergency response
- i) resources required to undertake an emergency response
- j) the known area of infestation
- k) the likely distribution of the pest or disease, in accordance with the relevant section of Schedule 4, in relation to a terrestrial pest/disease, an inland waters pest, an inland waters disease, a marine pest or a marine disease
- l) identification of the pathways for the entry into and spread within Australia of the pest or disease
- m) the level of confidence that further introductions are sufficiently low
- n) the dispersal ability of the organism (that is, whether the organism is capable of rapid spread over large distances)
- o) the level of confidence that the organism is detectable at very low densities (to help determine if eradication has been achieved), and that all sites affected by the incident have or can be found
- p) surveillance activities that are in place or could be put in place to confirm proof-of-freedom for sites possibly infested by the pest or disease
- q) any community consultation activities undertaken.

5. Benefit:cost analysis

5.1. The objective of the benefit:cost analysis

- a) The benefit:cost analysis is an important factor in determining:
 - i. whether to implement a national response, and
 - ii. the form of that response.
- b) The objective of the benefit:cost analysis is to determine whether the costs of a national response would be outweighed by the benefits and how the benefits would manifest.

5.2. Conducting a benefit:cost analysis

The benefit:cost analysis should compare all the expected costs of an impact (the benefits of responding) with all the expected costs of responding, including the following matters:

- a) the direct and indirect costs arising from the impact of the pest or disease, such as
 - i. increased expenses or reduced returns
 - ii. impacts on the economic, environmental and social values of natural assets
 - iii. impacts relating to the values affected under the relevant national significance criteria and the potential costs of mitigating those impacts in the absence of a national response
 - iv. costs identified through an assessment of the human health implications
- b) identification of the industries, businesses or other sectors of society that would benefit from a national response
- c) the costs and impacts of the response plan's actions, including the opportunity cost of any alternative uses of the funds required to implement the response plan
- d) the relative cost effectiveness of alternative approaches to limiting the risks
- e) the parties recognise that determining the costs and/or benefits (in a dollar sense) of the impacts of a pest or disease incident on the natural environment, and otherwise, can be problematic. As such, where limited (or no) data is available to support quantitative assessments of impacts, qualitative assessments should be used in the benefit:cost analysis.

6. Management of a Response Plan

A Response Plan must be implemented by the affected parties in accordance with:

- a) the applicable legislation
- b) the terms of the plan, ensuring the actions are not inconsistent with the applicable legislation
- c) Australia's international rights and obligations, including those contained in the SPS agreement.

SCHEDULE 4 – ARRANGEMENTS FOR COST-SHARING OF ELIGIBLE COSTS

1. Introduction

This schedule sets out the agreement's eligible costs and cost-sharing arrangements.

2. Principles of cost-sharing

2.1. Assessments prepared for the NBMCC and NMG

The notifying party must meet the costs of preparing the assessments to be provided to the NBMCC and the NMG for their consideration as to whether a national response is required.

2.2. Costs of emergency containment work

- 2.2.1 The notifying party, and any other state or territory party that becomes aware of an incident, or has reasonable suspicion of an incident of a potentially nationally significant pest or disease, will meet the costs of the emergency containment and control work.
- 2.2.2 The NMG may determine an exception to this approach where containment activity undertaken in the Incident Definition Phase is eligible for cost sharing if:
- a) a pest or disease is nationally significant (in accordance with Schedule 2), and
 - b) there is a genuine presumption of it being technically feasible to eradicate, and
 - c) work is underway to confirm this feasibility.

2.3. Cost-sharing once a Response Plan is approved

When the NMG has approved a Response Plan, cost-sharing principles will apply in respect of:

- a) eligible costs met by the parties, and non-government entities that are voting members at NMG, in accordance with items 2.1 and 2.2 of this schedule, by way of reimbursement in accordance with clause 7.5 of this agreement
- b) eligible costs arising from implementing the plan
- c) owner reimbursement costs, specified in item 3.4 of this schedule, from
 - i. the date of first notification of the incident to the relevant state(s), territory(s) or the Commonwealth; or
 - ii. an earlier date as may be determined by the NMG on advice from the NBMCC
- d) investigation and diagnostic costs, that occur in the Incident Definition Phase, if approved by the NMG as being relevant and reasonable.

3. Eligible costs

Eligible costs are as set out in this item 3, provided they are above a party's normal commitment, as determined by the NMG.

3.1. Salaries and wages

- a) The following are eligible costs:
 - i. subject to item 3.1(b) of this schedule, salaries, wages or fees for staff, consultants, contractors or externally funded staff engaged by a party to assist directly with a response, and for staff, consultants, contractors, or externally funded staff engaged to backfill positions of existing permanent staff who are assisting directly with a response
 - ii. subject to item 3.1(b) of this schedule, allowances for staff, consultants, contractors or externally funded staff engaged in implementing a Response Plan, including

- A. meal allowances
 - B. district allowances
 - C. penalty rates
 - D. accommodation assistance
- iii. payroll tax, workers' compensation, superannuation and leave for staff engaged directly for, or as a result of, implementing a response plan
 - iv. overtime incurred directly as a result of implementing a response plan
 - v. reimbursements to volunteer emergency service personnel by negotiation with the service provider, but generally limited to out-of-pocket or incidental expenses.
- b) Where the eligible costs are costs arising in accordance with items 3.1(a)(i) and (a)(ii) of this schedule in relation to contractors engaged by the parties to implement a national response those costs will only be eligible costs up to the fees and allowances level approved by the NMG, or such other relevant fee structure.
- c) The following are not eligible costs:
- i. salaries, wages or fees for staff, consultants, contractors, or externally funded staff who are, or who would be, engaged by a party irrespective of a response plan being implemented. However where the use of consultants or contractors, adds materially to the cost of the response to the jurisdiction, then these additional costs are eligible costs. The use of externally funded staff should also be acceptable provided the funds associated with those staff prior to the implementation of the response plan are suspended, withheld or refunded to the original funding party during the secondment of those staff to the response.

3.2. Operating expenses

Operating expenses incurred directly by a party when undertaking activities required by a response plan will be classed as eligible costs, subject to any conditions specified below:

- a) the cost of additional staff and operating costs incurred as a result of activities
 - i. required by a Response Plan
 - ii. provided internally by an agency of a state or territory party
- b) costs incurred by a state or territory party in obtaining laboratory services or the services of taxonomic experts from an external source to assist in the implementation of a Response Plan. The amount of eligible costs will be
 - i. where the specified contracted level of services is exceeded, an amount equivalent to the marginal cost in accordance with item 3.2(a) of this schedule that would be charged by a comparable government laboratory for that additional service

- ii. where there is no specified contracted service level, an amount not exceeding the full price that would be charged by a comparable government laboratory for those services
- c) costs arising from the purchase of stores and equipment for the implementation of a Response Plan. The eligible costs will be as valued
 - i. at the time of the proof-of-freedom or upon a determination by the NMG that the national response will not continue, in accordance with clause 7.4.7 of this agreement, in which case the stores or equipment will be sold within 60 days; or
 - ii. if disposed of prior to the time referred to in item 3.2(c)(i) of this schedule, at the time of disposal.

The proceeds from any sale of stores or equipment, or equivalent value, will be distributed to the parties in the same proportions as their contribution in accordance with the cost-sharing arrangement, unless the parties approve otherwise
- d) other essential operating costs will be eligible costs if so determined by the NMG and specified in a Response Plan.

3.3. Capital costs

Regardless of whether capital equipment has already been purchased or will be purchased by a party:

- a) eligible costs include the costs arising from obtaining (or obtaining the use of) essential equipment for the immediate servicing needs of a response plan; but
- b) eligible costs will not include capital expenditure on major items, such as motor vehicles or buildings, unless
 - i. the response plan specifies that the costs are to be eligible costs
 - ii. the capital items are essential for, and specific to, activities under the response.

Note that the working life of such capital items would normally be expected to extend beyond the response and may be utilised in other ongoing programs. Accordingly, the cost of such items is a party's responsibility
- c) such equipment will be valued and dealt with in accordance with item 3.2(c) of this schedule.

3.4. Owner reimbursement costs

- a) Subject to the conditions and restrictions set out in this item 3.4, owner reimbursements are eligible costs.
- b) Subject to the conditions set out in item 3.4(d) of this schedule, owner reimbursements are costs (including costs of damage) arising from actions approved by the NMG for the implementation of a Response Plan.
- c) Owner reimbursement costs could include:

- i. direct eradication costs arising from actions undertaken as part of a national response to a pest or disease
 - ii. direct costs arising from actions to prevent the spread of a pest or disease where the resulting impacts are predominantly relating to the environment
 - iii. the costs of property that has been destroyed as a result of actions undertaken as part of a response to an incident of a pest or disease that predominantly affects the environment
 - iv. costs arising from actions undertaken as part of a response, for example, additional pest control measures, special cleaning of machinery or equipment, slipway costs
 - v. direct costs arising, in relation to a native species that is
 - A. directly threatened by the pest or disease subject to the national response; or
 - B. directly threatened as a result of actions undertaken as part of the response from:
 - 1. relocation
 - 2. housing
 - 3. breeding
 - 4. rehabilitation; or
 - C. other related actions
 - undertaken in relation to the native species, provided that the threat to the native species referred to in item 3.4(c)(v)(A) or (B) of this schedule was (wholly or partly) a justification for the NMG to regard the incident of the pest or disease as being of national significance.
- d) Owner reimbursement costs will not include:
- i. the actual cost of replacing species not included in item 3.4(c) of this schedule that have been destroyed for the purposes of actions undertaken as part of a national response to a pest or disease
 - ii. costs (or any part of costs) where the owner, who would otherwise be entitled to owner reimbursements in accordance with this item 3.4, has been convicted of any offence which was or is directly related to actions undertaken as part of a national response
 - iii. costs that are attributable to
 - A. loss of profits
 - B. loss occasioned by a breach of contract
 - C. loss of production; or
 - D. any other consequential loss whatsoever

3.5. Audited statements of eligible costs

- a) To help it determine the affected parties' respective contributions to eligible costs, the NMG may seek an audited statement of expenditure from any party at any time during, or on completion of, a national response.
- b) Parties are required to maintain auditable records of eligible costs in accordance with clause 7.1.9 of this agreement.
- c) The reasonable costs incurred by:
 - i. the NMG in obtaining efficiency audits in accordance with clause 7.12 of this agreement, and in accordance with Attachment 4G to this schedule
 - ii. all affected parties in maintaining accounts and records as required in accordance with clause 7.9 of this agreement
 - iii. the notifying party when
 - A. preparing the reports required in accordance with clause 7.11 of this agreement, and in accordance with Attachment 4G to this schedule
 - B. obtaining financial audits required in accordance with clause 7.12 of this agreement, and in accordance with Attachment 4G to this schedule are eligible costs.

Attachment 4A Potential distribution of terrestrial pests and diseases

1. Introduction

- a) This attachment provides guidance on the process to be undertaken in determining the total potential distribution of a terrestrial pest or disease.
- b) The potential distribution of a pest or disease represents the potentially affected area by that pest or disease.
- c) This determination relates to calculating, in accordance with clause 7.2(d) of the agreement, what percentage of the total potentially affected area is represented by a party's jurisdiction which, in turn, leads to a determination of that party's percentage of risk and, subsequently, the number of people affected.
- d) This process does not include analysis of potential impacts, as these are considered during the technical feasibility and benefit:cost analyses.

2. Fundamental assumptions for determining the potential distribution of terrestrial pests and diseases

In modelling the potential distribution of a terrestrial pest or disease, the following fundamental assumptions apply:

- a) The contemporary situation will continue. The analysis will not include a consideration of possible future factors affecting the projected potential distribution, for example, climate change or changes in management actions, such as an increase in land clearing.
- b) The pest or disease has been evenly, aerially spread across the country. The analysis will not be concerned with the pathway by which a pest or disease might enter or has entered the country, nor with the potential rate of its spread, but will be concerned with the areas in which the pest or disease could survive and/or become established.
- c) There are no physiological or biological barriers to reproduction (i.e. the model assesses the area of climate match suitability where the species could establish if it could successfully reproduce).
- d) A general situation is to be relied on. While discussion of exceptions is important, the advice to be provided would be for the general situation.

3. Data requirements for determining the potential distribution of terrestrial pests and diseases

3.1. Introduction

The information required, or which would be useful, for determining the potential distribution of terrestrial pests and diseases includes:

- a) essential data—a prerequisite for a determination
- b) valuable data—which will assist with a determination
- c) secondary data—which will also assist with a determination.

3.2. Essential data

At a minimum, a determination of the potential distribution of a terrestrial pest or disease requires the following types of data:

- a) information to underpin a correct diagnosis/taxonomic identification
- b) climate data
- c) knowledge of overseas range, including native and invaded ranges.

3.3. Valuable data

Data on the types and range of obligate hosts or habitats is valuable for determining the potential distribution of terrestrial pests and diseases, provided it is available and incontrovertible.

3.4. Secondary data

- a) Secondary data that directly affect the potential distribution of a pest or disease can be used to determine the potential area of infestation. Secondary data will only be used if all parties on the NBMCC agree and only if it is available, highly relevant and incontrovertible.
- b) Secondary data includes:
 - i. insolation
 - ii. humidity
 - iii. land use
 - iv. vegetation cover
 - v. soil type.
- c) If the secondary data are known to limit the extent of potential distribution they should be combined with the modelling output to increase the robustness of the conclusions on potential distribution.
- d) It may also be useful to analyse a number of factors to establish the timing of management actions and response arrangements (for example: it is important to undertake action within days for an incident of eucalyptus rust, while action may be delayed for up to 18 months with the European house borer). Such factors may include:
 - i. reproductive rates
 - ii. dispersal capacity/dispersal pathways
 - iii. vector dispersal
 - iv. natural barriers
 - v. the presence of natural enemies (predators/competitors/diseases/parasites) in Australia.

3.5. Level of confidence in the essential data

- a) When providing advice to the NMG, the NBMCC will need to advise on the level of confidence it has in the information that underpins the climate suitability map for the pest or disease species.
- b) The most accurate data available should be used.
- c) The best sources of data are:
 - i. published, peer-reviewed data
 - ii. museum/herbarium/collection records and
 - iii. expert advice, properly elicited.
- d) Other sources of data that may be available are:
 - i. free databases (such as ECO, GBIF, PaDIL) and
 - ii. internet sources, where the level of confidence ranks (highest to lowest):
 - A. validated data sources with open access
 - B. validated data sources without open access
 - C. survey data and
 - D. open access (e.g. a google search).
- e) Where data are not validated, these sources should be checked and validated where possible. The data sources listed in item 3.5(d) of this attachment should be assessed according to their confidence ratings (see table in item 3.5(h) of this attachment). Assessments of survey data should consider the methodology used. If the methodology is not available, a low confidence rating should be assigned to these data. Surveys that follow international standards, such as those outlined in ISPM-6 (for plant pests and diseases) or OIE reporting standards (for animal Pests and diseases) should be assigned a higher confidence rating.
- f) Surrogate species (closely related species) information should not be used where there is no direct correlation between surrogates and the actual pest/disease species.
- g) Formal and informal networks of experts are an essential source of information and data. These networks should be encouraged and communicated with to ensure timely and effective decision-making.
- h) A table outlining the confidence rating of different data sources is provided below.

Document Type or Information Source	Confidence Rating
<ul style="list-style-type: none"> • Peer-reviewed scientific paper 	High
<ul style="list-style-type: none"> • High quality science or plant specific books (e.g. floras), non-peer reviewed scientific paper (e.g. conference proceedings), 	Medium/ High

<ul style="list-style-type: none"> • Personal communications from experts (e.g. PhD, or higher degree on species being assessed), • Unpublished reports from highly reliable sources (e.g. commercial reports or honours theses, etc.), • Internet information from Herbaria data, or • Internet information that cites sources from the 'Medium/High' category above. 	
<ul style="list-style-type: none"> • Personal communications from people with experience with the species under assessment, • Information from general plant books (e.g. Encyclopaedia Botanica, Gardening Flora, etc.), • Unpublished reports from uncertain sources, • Internet information that cites sources from the 'Medium' category, or • Internet information from government or university websites (e.g. Australian state governments, or the USDA) 	Medium
<ul style="list-style-type: none"> • Anecdotal data from non-experts, • Internet information that cites anecdotal, non-expert sources, • Internet information from uncertain/uncited sources, • Horticultural, nursery notes or general web pages. 	Medium/ Low
<ul style="list-style-type: none"> • No data or reference material available. 	Low

Source: Department of Primary Industries, Victoria.

- i) There is a risk that increasing the acceptable level of confidence in the quality of the data will reduce the quality of a prediction by reducing representativeness. Sensitivity analysis is needed to determine the influence of poor quality data. Effort can then be directed to verifying influential, poor quality data.

3.6. Insufficient data

In the event that there is insufficient data on a particular pest or disease to model the potential range, the NBMCC should provide advice to the NMG on its best estimate.

3.7. Preferred environmental datasets

- a) For consistency across all situations, the 'Worldclim Data' dataset is recommended. This addresses situations where species have a restricted range and there are no, or very few, meteorological stations in the 'World Stations' dataset. These interpolated computer generated points have a scatter of points across locations which have few meteorological stations. Use of this dataset also minimises concerns that the closest meteorological stations to a given location may not actually reflect the immediate location and climatic conditions. This may occur where disparate climatic conditions exist within a region, such as the mountainous areas bordering a coastline, like the Andes.
- b) The 'World Stations' climate data set for comparing the climatic range of a pest/disease species overseas with the potential area of climatic suitability in Australia is also possible if there are known meteorological stations truly representative of the recorded locations.
- c) Additional data sets that may be used for the secondary data are:
 - i. Bureau of Rural Sciences (BRS) land use/cover;
 - ii. AGO forest change; and
 - iii. NVIS data sets for native vegetation.
- d) The resolution for analysing data should be a 10 km x 10 km grid.
- e) Relevant and incontrovertible additional data from sources not listed here may be used following consultation and agreement by all members of the NBMCC.

4. Modelling software

[DRAFTING NOTE: consider if Climatch remains the preferred model]

- a) 'Climatch' (with Euclidian matching implemented by BRS—part of the Department of Agriculture, Fisheries and Forestry) is the preferred climate modelling software.
- b) While Climatch, like all models, has limitations, its overall logic is sound and it has the advantage of producing a single, reproducible climate match output from a set of agreed inputs. While it is acknowledged that the predictions have uncertainty attached to them, there will be no systematic errors that consistently disadvantage a particular jurisdiction.
- c) Climatch uses a number of data parameters, such as temperature and rainfall, to match regions of Australia with areas overseas where a pest or disease is already established.

This is then a prediction of where it may be possible for the pest or disease to live if able and allowed to spread to all areas if species-specific resources were present.

For cost-sharing purposes a threshold of climate match level 5 and higher will be used for Climatch modelling.

5. Processes and procedures for modelling the likely area of infestation of a terrestrial pest or disease

The following process is recommended for modelling the likely area of infestation:

- a) Identify the pest or disease.
- b) Undertake an internet search and contact libraries/herbaria for information on the pest/disease species (accessing both high quality and lesser quality information), particularly on its distribution;
- c) Collect overseas and Australian distributional data (both validated and anecdotal), noting that this is for new incidents in Australia.
- d) Undertake Climatch modelling of validated data using:
 - i. validated location data points for the species
 - ii. the 'Worldclim Data' dataset
 - iii. Euclidian match.
- e) Undertake Climatch modelling of anecdotal data using the methodology set out in item 5(d) of this attachment.
- f) Check the data to ensure there are no fundamental errors and validate the outliers, excluding (with an explanation) any errors and anomalies (e.g, non-viable populations and garden plants).
- g) Check the results with other experts.
- h) Undertake any further analyses with additional layers of data, if they are to be used (e.g, vegetation groups, agroecological regions etc). The recommended software for this is ARC-GIS or MCAS (available from BRS). Any modifiers that are used must be incontrovertible and fully documented.
- i) Produce a map of the potential distribution based on climate suitability and any additional data:
 - i. threshold match of level 5 (Bomford modelling)
 - ii. include a confidence statement on the quality of the data.

Attachment 4B Potential distribution of inland water pests

1. Introduction

- a) This attachment provides guidance on the process to be undertaken in determining the total potential distribution of an inland water pest.
- b) The potential distribution of an inland water pest represents the area it could potentially affect.
- c) This determination relates to calculating, in accordance with clause 7.2(d) of the agreement, what percentage of the total, potentially affected area is represented by a party's jurisdiction which, in turn leads to a determination of the party's percentage of risk and, subsequently, the number of people in that jurisdiction affected by a pest or disease.
- d) This process does not include analysis of potential impacts as these would be considered in the technical feasibility and benefit:cost analyses.

2. Fundamental assumptions for determining the potential distribution of inland water pests

In modelling the potential distribution of an inland water pest, the following fundamental assumptions apply:

- a) The contemporary situation will continue. The analysis will not include a consideration of possible future factors affecting the projected potential distribution, for example, climate change or changes in management actions, such as an increase in land clearing.
- b) The pest has been evenly spread across inland waters in Australia. The analysis will not be concerned with the pathway by which a pest might enter or has entered the country, nor with the potential rate of its spread, but, rather, with the areas in which the pest could survive and/or become established.
- c) There are no physiological or biological barriers to reproduction (i.e. the model assesses the area of climate match suitability where the species could establish if it could successfully reproduce).
- d) A general situation is to be relied on. While discussion of exceptions is important, the advice to be provided would be for the general situation.

3. Data requirements for determining the potential distribution of inland water pests

3.1. Introduction

The information required, or which would be useful, for determining the potential distribution of inland water pests includes:

- a) essential data—a prerequisite for a determination
- b) valuable data—which will assist with a determination
- c) secondary data—which will also assist with a determination

3.2. Essential data

At a minimum, a determination of potential distribution of an inland water pest requires the following types of data:

- a) information underpinning correct diagnosis/taxonomic identification
- b) climate data
- c) surface area of the inland water, using the following features, as defined by the GEODATA TOPO 250k dataset (available from Geoscience Australia at www.ga.gov.au)
 - i. lakes
 - ii. reservoirs
 - iii. rivers—perennial, noting that, in some situations, non-perennial sections of rivers may need to be incorporated into the data to be used for modelling
 - iv. canals and irrigation channels
 - v. wetlands (equivalent to 'swamps' in the GEODATA TOPO 250k dataset)
- d) knowledge of overseas range, including native and invaded ranges.

3.3. Valuable data

Data on the types and range of obligate hosts or habitats is valuable for determining the potential distribution of inland water pests, provided it is available and incontrovertible.

3.4. Secondary data

- a) Secondary data that directly affect the potential distribution of a pest can be used to determine the potential area of infestation. Secondary data will only be used if all parties on the NBMCC agree and only if it is available, highly relevant and incontrovertible.
- b) Secondary data includes:
 - i. spatial information on dams
 - ii. water temperatures for survival and/or spawning
 - iii. the hydrologic regime (water levels, flow, turbidity etc)
 - iv. water chemistry (oxygen levels, salinity, hardness, acidity, pollution etc)
 - v. the substrate required for survival and/or spawning (rocks, sand, mud, weed beds etc).
- c) If the secondary data are known to limit the extent of potential distribution they should be combined with the modelling output to increase the robustness of the conclusions on potential distribution.
- d) It may also be useful to analyse a number of factors to establish the timing of management actions and response arrangements. Such factors may include:
 - i. reproductive rates

- ii. dispersal capacity/dispersal pathways
- iii. vector dispersal
- iv. natural barriers
- v. the presence of natural enemies
(predators/competitors/diseases/parasites) in Australia.

3.5. Level of confidence in the essential data

- a) When providing advice to the NMG, the NBMCC will need to advise on the level of confidence it has in the information that underpins the potential distribution of a pest species.
- b) The most accurate data available should be used.
- c) The best sources of data are:
 - i. published, peer-reviewed data
 - ii. museum/herbarium/collection records and
 - iii. expert advice, properly elicited.
- d) Other sources of data that may be available are:
 - i. free databases (such as ECO, GBIF, PaDIL) and
 - ii. internet sources where the level of confidence ranks (highest to lowest):
 - A. validated data sources with open access
 - B. validated data sources without open access
 - C. survey data and
 - D. open access (e.g. google searches).
- e) Where data are not validated, these sources should be checked and validated where possible. The data sources listed in item 3.5(d) of this attachment should be assessed according to their confidence rating (see table in item 3.5(h) of this attachment). Assessment of survey data should consider the methodology used in the survey. Where survey methodology is not available, a low confidence rating should be assigned to these data. Surveys which follow international standards, such as those outlined in ISPM-6 (for plant pests and diseases) or OIE reporting standards (for animal pests and diseases) should be assigned a higher confidence rating.
- f) Surrogate species (closely related species) information should not be used as there is no direct correlation between surrogates and pest species.
- g) Formal and informal networks of experts are an essential source of information and data. These networks should be encouraged and communicated with to ensure timely and effective decision-making.
- h) A table outlining the confidence rating of different data sources is provided below.

Document Type or Information Source	Confidence Rating
<ul style="list-style-type: none"> Peer-reviewed scientific paper 	High
<ul style="list-style-type: none"> High quality science or plant specific books (e.g. floras), non-peer reviewed scientific paper (e.g. conference proceedings), Personal communications from experts (e.g. PhD, or higher degree on species being assessed), Unpublished reports from highly reliable sources (e.g. commercial reports or honours theses, etc.), Internet information from Herbaria data, or Internet information that cites sources from the 'Medium/High' category above. 	Medium/ High
<ul style="list-style-type: none"> Personal communications from people with experience with the species under assessment, Information from general plant books (e.g. Encyclopaedia Botanica, Gardening Flora, etc.), Unpublished reports from uncertain sources, Internet information that cites sources from the 'Medium' category, or Internet information from government or university websites (e.g. Australian state governments, or the USDA) 	Medium
<ul style="list-style-type: none"> Anecdotal data from non-experts, Internet information that cites anecdotal, non-expert sources, Internet information from uncertain/uncited sources, Horticultural, nursery notes or general web pages. 	Medium/ Low
<ul style="list-style-type: none"> No data or reference material available. 	Low

Source: Department of Primary Industries, Victoria.

- i) There is a risk that increasing the acceptable level of confidence in the quality of the data will reduce the quality of a prediction by reducing representativeness. Sensitivity analysis is needed to determine the influence of poor quality data. Effort can then be directed to verifying influential, poor quality data.

3.6. Insufficient data

If there is insufficient data on a particular pest to model the potential range, the NBMCC should provide advice to the NMG on its best estimate.

3.7. Preferred datasets

- a) Climate data from the Bureau of Meteorology can be used for actual climate variables—as opposed to WorldClim, which tends to be based on averages.
- b) Since many incursions originate from ports and airports—a distance to ports and airports is very useful.
- c) Similarly, water feature data can be analysed based on, for example, the distance to perennial or ephemeral rivers or lakes.
- d) Additional data sets that may be used as secondary data are:
 - i. Bureau of Rural Sciences (BRS) land use/cover;
 - ii. Heritage features, such protected sites, World Heritage Areas and the national estate; and
 - iii. NVIS data sets for native vegetation; and VAST data to indicate vegetation condition.
- e) Due to the scale of the input data, the analysis should be made at the native resolution level and presented as a 10 km x 10 km grid.

4. Modelling software

[DRAFTING NOTE: consider if Climatch remains the preferred model]

- a) Climatch (Euclidian matching as implemented by BRS) is the preferred climate modelling software.
- b) While Climatch, like all models, has limitations, its overall logic is sound and it has the advantage of producing a single, reproducible climate match output from a set of agreed inputs. While it is acknowledged that the predictions have uncertainty attached to them, there will be no systematic errors that consistently disadvantage a particular jurisdiction.
- c) Climatch uses a number of data parameters, such as temperature and rainfall, to match regions of Australia with areas overseas where a pest is already established. This is then a prediction of where it may be possible for the pest to live if able and allowed to spread to all areas.
- d) An additional data layer for surface water will also be used for inland water pests. Suitable habitat will be wherever surface water occurs in an area of suitable climate.
- e) For cost-sharing purposes a threshold of climate match level 5 and higher will be used for Climatch modelling.

5. Processes and procedures for modelling the likely area of infestation of an inland water pest

The following process is recommended for modelling the likely area of infestation:

Identify the pest.

- a) Undertake an internet search for information on the pest (accessing both high and lesser quality information), particularly on distribution.
- b) Collect overseas and Australian distributional data (both validated and anecdotal, noting that this is for new incidents).
- c) Undertake Climatch modelling of validated data using:
 - i. all 16 parameters for rainfall and temperature
 - ii. the agreed, current shapefile
 - iii. worlddata all.txt (or, if necessary, newwrlclm.txt)
 - iv. Euclidian match.
- d) Undertake Climatch modelling of anecdotal data using methodology as for item 5(d) of this attachment.
- e) Check the data to ensure there are no fundamental errors and validate the outliers, excluding (with an explanation) any errors and anomalies (e.g. non-viable populations).
- f) Overlay with surface water data/maps.
- g) Check the results with other experts.
- h) Include additional layers of data, when they are to be used in the analysis (such as the host species range to give the potential distribution of inland water pathogens, as it is assumed that they would generally require the presence of a suitable host species to survive). Any modifiers that are used must be incontrovertible and fully documented.
- i) Produce potential distribution map:
 - i. 'clip' Climatch map in GIS to the overlay of the surface water
 - ii. threshold match of level 5 (Bomford modelling)
 - iii. include a confidence statement on the quality of the data.

Attachment 4C Potential distribution of inland water diseases

1. Introduction

- a) This attachment provides guidance on the process to be undertaken in determining the total potential distribution of an inland water disease and the potential percentage of the host population(s) that could be affected.
- b) The potential distribution of an inland water disease represents the distribution of any and all host species it can infect.
- c) This determination relates to calculating, in accordance with clause 7.2(d) of the agreement, what percentage of the total, potentially affected area is represented by a party's jurisdiction which, in turn leads to a determination of the party's percentage of risk and, subsequently, the number of people in that jurisdiction affected by a disease occurrence.
- d) This process does not include analysis of potential impacts as these would be considered in the technical feasibility and benefit:cost analyses.

2. Fundamental assumptions for determining the potential distribution of inland water diseases

In modelling the potential distribution of an inland water disease, the following fundamental assumptions apply:

- a) The contemporary situation will continue. The analysis will not include a consideration of possible future factors affecting the projected potential distribution, for example, climate change or changes in management actions.
- b) The disease has been evenly spread across susceptible host species in inland waters in Australia. The analysis will not be concerned with the pathway by which a disease might enter or has entered the country, nor with the potential rate of its spread, but, rather, with the areas in which the disease could persist and/or become established.
- c) There are no physiological or biological barriers to establishment or spread of the disease (i.e. the model assesses the area of climate match suitability where the disease could become endemic if it could successfully establish in one or several hosts).
- d) A general situation is to be relied on. While discussion of exceptions is important, the advice to be provided would be for the general situation.

3. Data requirements for determining the potential distribution of inland water diseases

3.1. Introduction

The information required, or which would be useful, for determining the potential distribution of inland water diseases includes:

- a) essential data—a prerequisite for a determination
- b) valuable data—which will assist with a determination

- c) secondary data—which will also assist with a determination.

3.2. Essential data

At a minimum, a determination of potential distribution of an inland water disease requires the following types of data:

- a) information underpinning correct diagnosis/taxonomic identification
- b) known Australian hosts. Data on the range of hosts or habitats for determining the potential distribution of inland water diseases, provided it is available and incontrovertible
- c) known minimum and maximum temperature and salinity tolerances for the disease agent and host species
- d) surface area of the inland water, using the following features, as defined by the GEODATA TOPO 250k dataset (available from Geoscience Australia at www.ga.gov.au)
 - i. lakes
 - ii. reservoirs
 - iii. rivers—perennial, noting that, in some situations, non-perennial sections of rivers may need to be incorporated into the data to be used for modelling
 - iv. canals and irrigation channels
 - v. wetlands (equivalent to ‘swamps’ in the GEODATA TOPO 250k dataset)
- e) knowledge of overseas host and geographical ranges of the aetiological agent.

3.3. Valuable data

- a) Data on reproductive abilities of the host species and pathogen.
- b) The behaviour of the infected hosts including whether they are potamodromous (migrate within fresh water only); diadromous (travel between salt and fresh water); anadromous (live in the ocean mostly, and breed in fresh water); catadromous (live in fresh water, and breed in the ocean); amphidromous (move between fresh and salt water during their life cycle, but not to breed).

3.4. Secondary data

- a) Secondary data that directly affect the potential distribution of a disease can be used to determine the potential area of infection. Secondary data will only be used if all parties on the NBMCC agree and only if it is available, highly relevant and incontrovertible.
- b) Secondary data includes:
 - i. spatial information on dams
 - ii. the hydrologic regime (water levels, flow, turbidity etc)
 - iii. water chemistry (oxygen levels, salinity, hardness, acidity, pollution etc).

- c) If the secondary data are known to limit the extent of potential distribution they should be combined with the modelling output to increase the robustness of the conclusions on potential distribution.
- d) It may also be useful to analyse a number of factors to establish the timing of management actions and response arrangements. Such factors may include:
 - i. mechanisms of pathogen transmission
 - ii. knowledge of potential vectors
 - iii. natural barriers.

3.5. Level of confidence in the essential data

- a) When providing advice to the NMG, the NBMCC will need to advise on the level of confidence it has in the information that underpins the potential distribution of a disease agent and its host species.
- b) The most accurate data available should be used.
- c) The best sources of data are:
 - i. National Information Systems
 - ii. published, peer-reviewed data
 - iii. museum/collection records, unpublished government records including unpublished survey reports, laboratory reports and catch-effort fisheries databases
 - iv. expert advice, properly elicited.
- d) Other sources of data that may be available are:
 - i. free databases (e.g. Fishbase)
 - ii. internet sources where the level of confidence ranks (highest to lowest):
 - A. validated data sources with open access
 - B. validated data sources without open access
 - C. survey data that uses recognised methods and
 - D. open access (e.g. Google searches).
- e) Where data are not validated, these sources should be checked and validated where possible. The data sources listed in item 3.5(d) of this attachment should be assessed according to their confidence rating (see table in item 3.5(h) of this attachment). Assessment of survey data should consider the methodology used in the survey. Where survey methodology is not available, a low confidence rating should be assigned to these data. Surveys which follow international standards, or OIE reporting standards (for animal pests and diseases) should be assigned a higher confidence rating. Note that aquatic organism distribution data and aquatic parasite distribution data are non-parametric.
- f) Closely related host and pathogen species information should be used with caution as there is no direct correlation between surrogates and actual disease

species. Likewise, host susceptibility data based on laboratory challenge studies should be used with caution.

- g) Formal and informal networks of experts are an essential source of information and data. These networks should be encouraged and communicated with to ensure timely and effective decision-making.
- h) A table outlining the confidence rating of different data sources is provided below.

Document Type or Information Source	Confidence Rating
<ul style="list-style-type: none"> Peer-reviewed scientific paper 	High
<ul style="list-style-type: none"> High quality science or plant specific books (e.g. floras), non-peer reviewed scientific paper (e.g. conference proceedings), Personal communications from experts (e.g. PhD, or higher degree on species being assessed), Unpublished reports from highly reliable sources (e.g. commercial reports or honours theses, etc.), Internet information from Herbaria data, or Internet information that cites sources from the 'Medium/High' category above. 	Medium/ High
<ul style="list-style-type: none"> Personal communications from people with experience with the species under assessment, Information from general plant books (e.g. Encyclopaedia Botanica, Gardening Flora, etc.), Unpublished reports from uncertain sources, Internet information that cites sources from the 'Medium' category, or Internet information from government or university websites (e.g. Australian state governments, or the USDA) 	Medium
<ul style="list-style-type: none"> Anecdotal data from non-experts, Internet information that cites anecdotal, non-expert sources, Internet information from uncertain/uncited sources, Horticultural, nursery notes or general web pages. 	Medium/ Low
<ul style="list-style-type: none"> No data or reference material available. 	Low

- i) There is a risk that increasing the acceptable level of confidence in the quality of the data will reduce the quality of a prediction by reducing representativeness. Sensitivity analysis is needed to determine the influence of poor quality data. Effort can then be directed to verifying influential, poor quality data.

3.6. Insufficient data

If there is insufficient data on a particular disease agent or its potential hosts to model the potential range, then the cost-sharing model defaults to a population basis, i.e. the percentage contributed by each state and the Northern Territory is determined based on the population, where the combined percentages for each state and Northern Territory is equal to 100.

3.7. Preferred datasets

- a) Catchment maps, since incursions move upstream and downstream from the index case.
- b) Climate data from the Bureau of Meteorology can be used for actual climate variables—as opposed to WorldClim, which tends to be based on averages.
- c) Since many incursions originate from ports, aquaculture facilities or towns, a distance to ports, aquaculture facilities and towns is very useful.
- d) Similarly, water feature data can be analysed based on, for example, the distance to perennial or ephemeral rivers or lakes.
- e) Additional data sets that may be used as secondary data are:
 - i. Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) land use/cover
 - ii. Heritage features, such protected sites, World Heritage Areas and the national estate.
- f) Due to the scale of the input data, the analysis should be made at the native resolution level and presented as a 10 km x 10 km grid.

4. Modelling software

[DRAFTING NOTE: consider if Climatch remains the preferred model]

- a) Climatch (Euclidian matching as implemented by ABARES) is the preferred climate modelling software.
- b) While Climatch, like all models, has limitations, its overall logic is sound and it has the advantage of producing a single, reproducible climate match output from a set of agreed inputs. While it is acknowledged that the predictions have uncertainty attached to them, there will be no systematic errors that consistently disadvantage a particular jurisdiction.
- c) Climatch uses a number of data parameters, such as temperature and rainfall, to match regions of Australia with areas overseas where a disease is already established. This is then a prediction of where it may be possible for the disease to establish if able and allowed to spread to all areas.

- d) An additional data layer for surface water will also be used for inland water diseases. Suitable habitat will be wherever surface water occurs in an area of suitable climate.
- e) For cost-sharing purposes a threshold of climate match level 5 and higher will be used for Climatch modelling.

5. Processes and procedures for modelling the likely area affected by an inland water disease

5.1. Processes and procedures

The following process is recommended for modelling the likely area of infection:

- a) Identify the disease/infectious agent.
- b) Identify the potential host(s).
- c) Determine the minimum and maximum environmental tolerances for the disease agent.
 - i. The most accurate environmental tolerance range of a disease agent should be used when determining the potential distribution. Dependent on the species information available, this will be determined by combining environmental tolerance data on a host species, noting that the environmental tolerance data used may still overestimate the potential range.
 - ii. Only if the abovementioned option is not available should low confidence data be used (in order of preference).
 - iii. Environmental data should be sourced from a literature review process using both high and low confidence data.
 - iv. Other variables that are considered driving factors in the distribution of a disease may be incorporated into the formula, as decided by the NBMCC on a case-by- case basis.
 - v. Where additional layers of data are to be used in the analysis they will also need to be scientifically determined. Any modifiers that are used must be incontrovertible and fully documented.
- d) Determine the minimum and maximum environmental tolerances for the potential hosts.
 - i. The most accurate environmental tolerance range of a potential hosts should be used when determining the potential distribution. Dependent on the species information available, this will be determined by combining environmental tolerance data on a host species, noting that the environmental tolerance data used may still overestimate the potential range.
 - ii. Only if the abovementioned option is not available should low confidence data be used (in order of preference).

- iii. Environmental data should be sourced from a literature review process using both high and low confidence data.
 - iv. Other variables that are considered driving factors in the distribution of a disease may be incorporated into the formula, as decided by the NBMCC on a case-by- case basis.
 - v. Where additional layers of data are to be used in the analysis they will also need to be scientifically determined. Any modifiers that are used must be incontrovertible and fully documented.
- e) Undertake an internet search for information on the disease (accessing both high and lesser quality information), particularly on distribution.
 - f) Collect overseas and Australian distributional data (both validated and anecdotal, noting that this is for new incidents).
 - g) Undertake Climatch modelling of validated data using:
 - i. all 16 parameters for rainfall and temperature
 - ii. the agreed, current shapefile
 - iii. worlddata all.txt (or, if necessary, newwrlldclm.txt)
 - iv. Euclidian match.
 - h) Undertake Climatch modelling of anecdotal data using methodology as for item 5.1(d) of this attachment.
 - i) Check the data to ensure there are no fundamental errors and validate the outliers, excluding (with an explanation) any errors and anomalies (e.g. non-viable populations).
 - j) Overlay with surface water data/maps.
 - k) Check the results with other experts.
 - l) Include additional layers of data, when they are to be used in the analysis (such as the host species range to give the potential distribution of inland water pathogens, as it is assumed that they would generally require the presence of a suitable host species to survive). Any modifiers that are used must be incontrovertible and fully documented.
 - m) Produce potential distribution map:
 - i. 'clip' Climatch map in GIS to the overlay of the surface water
 - ii. threshold match of level 5 (Bomford modelling)
 - iii. include a confidence statement on the quality of the data.

[DRAFTING NOTE: update 5.2 Trigger List Species following consultation with SCAAH]

5.2. Trigger List Species

- a) If an inland water disease agent is currently on the OIE/Australia's National list, the potential affected waterways for each state should be predetermined as part of preparedness measures.

- b) Percentage contribution figures for each state and the Northern Territory are maintained by the Sub-Committee on Aquatic Animal Health (SCAAH) secretariat.
- c) SCAAH should review the methods, figures and guidelines used for national response cost sharing analysis every two years. The formula should evolve to incorporate any new technology, data or species identified since the previous review.

6. Parameters for cost-sharing of responses to disease incidents in inland water environments

6.1. Population parameters

With regard to disease incidents in inland water environments, the following parameters will be used to determine the Australian and jurisdictional populations.

- a) Each population value used should be the most recent and accurate available. The most recently available Australian Bureau of Statistics Australian Demographic Statistics Population parameters will be used to estimate populations. The New South Wales population will not include Jervis Bay.
- b) All population figures will include those of relevant islands in each jurisdiction.
- c) The sum of the populations for the states and the Northern Territory will be used as the total population of Australia. The population of Jervis Bay is excluded from the calculations of the New South Wales population as it comes under the jurisdiction of the Commonwealth. The total Australian population does not include the Australian Capital Territory population.

6.2. Area of waterway parameters

For the purposes of disease incidents in inland water environments the following parameters will be used.

- a) Each value should be the most recent, accurate figure available (see item 3.7 to this attachment).
- b) The figures will include inland water catchments on relevant islands in each jurisdiction.
- c) The New South Wales figure should not incorporate the Australian Capital Territory's (including Jervis Bay) area of inland waters.
- d) The sum of the surface area of the inland water as defined by the GEODATA TOPO 250k dataset (see 3.2(d)).

7. Formula for calculating cost-sharing arrangements for disease incidents in inland water environments

Cost-sharing for disease incidents in inland water environments is calculated using the following steps:

Step 1: Determine the area of potentially affected jurisdictional waterway(s) in accordance with item 5.1 of this attachment.

Step 2: Calculate the number of people potentially affected in a particular jurisdiction: The number of people in potentially affected area in that jurisdiction equals:

$$\frac{\text{Jurisdiction population} \times \text{area of potentially affected jurisdiction waterway}}{\text{total area of jurisdiction waterway}}$$

Step 3: Repeat Step 2 for all potentially affected jurisdictions.

Step 4: Calculate the total number of people affected in Australia: The total number of people potentially affected in Australia equals:

The sum of the number of people potentially affected in each potentially affected jurisdiction (i.e. jurisdiction A + jurisdiction B + and so on)

Step 5: Calculate a jurisdiction's share of the combined investment in accordance with clause 7.2(d) of this agreement.

Step 6: Repeat Step 5 for each potentially affected jurisdiction.

For example, cost-sharing for an inland water disease incident with four potentially affected jurisdictions:

Jurisdiction	Percentage share of each jurisdictions' contribution (note: the total contribution from the jurisdictions is 50 per cent of total costs with the Commonwealth contributing the other 50 per cent)
Jurisdiction A	32.5 per cent
Jurisdiction B	44.2 per cent
Jurisdiction C	7.5 per cent
Jurisdiction D	15.8 per cent
Total	100 per cent

Attachment 4D – Potential distribution of marine pests and potentially affected populations

1. Introduction

- a) This attachment provides guidance on the process to be undertaken in determining the total potential distribution of a marine pest and the potential percentage of the population that could be affected.
- b) The potential distribution of a marine pest represents the area it could potentially affect.
- c) This determination relates to calculating, in accordance with clause 7.2(d) of the agreement, what percentage of the total, potentially affected area is represented by a party's jurisdiction which, in turn leads to a determination of the party's percentage of risk and, subsequently, the number of people in that jurisdiction affected by a pest or disease.
- d) This process does not include analysis of potential impacts as these would be considered in the technical feasibility and benefit:cost analyses.

2. Fundamental assumptions for determining the potential distribution of marine pests

In modelling the potential distribution of a marine pest, the following fundamental assumptions apply:

- a) The contemporary situation will continue. The analysis will not include a consideration of possible future factors affecting the projected potential distribution, for example, climate change.
- b) The pest has been evenly spread across Australia's waters. The analysis will not be concerned with the pathway by which a pest might enter or has entered the country, nor with the potential rate of its spread, but, rather, it will be concerned with the areas in which the pest could survive and/or become established.
- c) There are no physiological or biological barriers to reproduction (i.e. the model assesses the area of climate match suitability where the species could establish if it could successfully reproduce).
- d) A general situation is to be relied on. While discussion of exceptions is important, the advice to be provided would be for the general situation.

3. Data requirements for determining the potential distribution of marine pests

3.1. Introduction

The information required, or which would be useful, for determining the potential distribution of marine pests includes:

- a) essential data—a prerequisite for a determination
- b) valuable data—which will assist with a determination
- c) secondary data—which will also assist with a determination

3.2. Essential data

At a minimum, a determination of the potential distribution of a marine pest requires the following types of data:

- a) information underpinning correct diagnosis/taxonomic identification
- b) minimum and maximum temperature tolerances for the species in the order of preference (as described in item 5(b) of this attachment)
- c) sea surface temperature for Australian coastal waters.

3.3. Valuable data

Data on the types and range of obligate hosts or habitats is valuable for determining the potential distribution of marine pests, provided it is available and incontrovertible.

Estimates on spawning times are important as they restrict the need to analyse the suitability of water temperature to those times of the year when the life stage is present in the water column. Data on other reproductive abilities (such as fragmentation for asexual species) is also important.

3.4. Secondary data

- a) Secondary data that directly affect the potential distribution of a pest can be used to determine the potential area of infestation. Secondary data will only be used if all parties on the NBMCC agree and only if it is available, highly relevant and incontrovertible.
- b) Secondary data includes:
 - i. knowledge of overseas ranges—this can be used to infer temperature tolerances if reliable data is not available relating to the critical life-limiting phase
 - ii. the tolerance of a species to other limiting factors, such as salinity.
- c) If secondary data are known to limit the extent of potential distribution they should be combined with the modelling output to increase the robustness of the conclusions on potential distribution.
- d) It may also be useful to analyse a number of factors to establish the timing of management actions and response arrangements. Such factors may include:
 - i. reproductive methods (aggregate spawning, solitary spawning, asexual through fragmentation)
 - ii. reproductive rates
 - iii. the time when likely reproductive conditions may be met in Australia (e.g. spawning times and the preferred water temperature for spawning)
 - iv. dispersal capacity/dispersal pathways
 - v. natural barriers
 - vi. the presence of natural enemies (predators/competitors/diseases/parasites) in Australia.

3.5. Level of confidence in the essential data

- a) When providing advice to the NMG, the NMCC will need to advise on the level of confidence it has in the information underpinning its distribution map for a particular pest species.
- b) The most accurate data available should be used.
- c) The best sources of data are:
 - i. the National Introduced Marine Pest Information System (NIMPIS)
 - ii. published, peer-reviewed data.
- d) Other sources of data that may be available are:
 - i. free databases (such as ECO, GBIF, PaDIL and NEMESIS)
 - ii. internet sources, where the level of confidence ranks (highest to lowest):
 - A. validated data sources with open access
 - B. validated data sources without open access
 - C. survey data that uses recognised methods (such as the Bishop Museum or CRIMP protocols) and
 - D. open access (e.g. google search).
- e) Where data are not validated, these sources should be checked and validated where possible. The data sources listed in item 3.5(c) of this attachment should be assessed according to their confidence rating (see table in item 3.5(h) of this attachment). Assessment of survey data should consider the methodology used in the survey. Where survey methodology is not available, a low confidence rating should be assigned to these data. Surveys which follow international standards, should be assigned a higher confidence rating.
- f) Surrogate species (closely related species) information should not be used as there is no direct correlation between surrogates and actual pest species.
- g) Formal and informal networks of experts are an essential source of information and data. These networks should be encouraged and communicated to ensure timely and effective decision-making.
- h) A table outlining the confidence rating of different data sources is provided below.

Document Type or Information Source	Confidence Rating
<ul style="list-style-type: none"> • Scientific research in temperature tolerances supported and tested by peer reviews. • Information held on National Introduced Marine Pest Information System (NIMPIS). • Published scientific journals. 	High
<ul style="list-style-type: none"> • Non-reviewed documents. 	Low

<ul style="list-style-type: none">• Data that relates to indirect tolerance ranges (n.b. this includes laboratory testing, in situ environmental ranges)• Literature and data obtained from similar species (e.g. the same family or genus).	
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Source: Department of Agriculture, Fisheries and Forestry.

- i) There is a risk that increasing the acceptable level of confidence in the quality of the data will reduce the quality of a prediction by reducing representativeness. Sensitivity analysis is needed to determine the influence of poor quality data. Effort can then be directed to verifying influential, poor quality data.

3.6. Insufficient data

If there is insufficient data on a particular pest species to model its potential range, then the cost-sharing model defaults to a population basis, i.e. the percentage contributed by each state and the Northern Territory is determined based on the population, where the combined percentages for each state and Northern Territory is equal to 100.

3.7. Preferred datasets

- a) The most recently available Australian Bureau of Statistics parameters will be used to estimate the length of coastline. They are published in the 1301.0 Year Book Australia, Geography of Australia section (or the superseding document) (www.abs.gov.au). The New South Wales coastline will not include the Jervis Bay territory.
- b) Temperature tolerance data should be sourced from NIMPIS—if there is no data available in NIMPIS then the figures should be obtained from a literature review process using both high and low confidence data.
- c) The data provided by the NASA Jet Propulsion Laboratory (<http://podaac.jpl.nasa.gov>), or its successors, will be used to determine sea surface temperatures.

4. Modelling software for determining the potential distribution of marine pests

The Invasive Marine Species Range Mapping Tool Methodology outlined in Invasive Marine Species Range Mapping (2007) (http://adl.brs.gov.au/brsShop/html/brs_prod_90000003680.html) is the preferred method. The model produces a map that shows the range of the pest species in Australia's coastal waters.

5. Processes and procedures for determining the length of coastline potentially affected

The potential distribution is the extent (in kilometres) of coast that may potentially be inhabited by a pest species, i.e. 'length of coastline affected'. Noting item 5.2 of this attachment, the following process is recommended to determine the total length of coastline for Australia and for each relevant state/territory:

- a) Identify the pest.
- b) Determine the minimum and maximum temperature tolerances for the species.
 - i. The most accurate temperature tolerance range of a species should be used when determining its potential distribution. Dependent on the species information available, this will be determined by combining temperature tolerance data on a species' adult and critical lifestage, noting that the temperature tolerance data used may still overestimate the potential range. An example of a species critical lifestage is the temperature cues for spawning or the ability of larvae to survive. Definitions for limiting phases for groups of species are included in item 5.3 below—'Critical Life Limiting Phase Temperature Tolerances'.
 - ii. If reliable information regarding the critical life limiting phase range is not available, reliable information on adult temperature tolerances should be used.
 - iii. Only if none of the abovementioned options are available should low confidence temperature data be used (in order of preference); critical life phase and adult temperature, critical lifestage temperature tolerance in isolation followed by current distribution temperature ranges.
 - iv. Temperature tolerance data should be sourced from NIMPIS—if there is no data available through NIMPIS then it should be obtained from a literature review process using both high and low confidence data.
 - v. Other variables that are considered driving factors in the distribution of a species, e.g. nutrient availability for an algal species, may be incorporated into the formula, as decided by the NBMCC on a case-by-case basis.
 - vi. Where additional layers of data are to be used in the analysis they will also need to be scientifically determined. Any modifiers that are used must be incontrovertible and fully documented.
- c) Determine the sea surface temperature (SST) for Australian coastal waters.
 - i. Use the entire NASA Jet Propulsion Laboratory dataset available since 1985.
 - ii. Use the highest spatial resolution possible, which is currently 4km cell size. This will allow the greatest possible discrimination between areas that may be, as opposed to those that would not be, within the potential range of a particular species.
 - iii. Use mean monthly temporal resolution, which is the finest resolution available and which has been processed by NASA to remove any anomalies.
- d) Using the Invasive Marine Species Range Mapping tool and the data obtained from items 5(a) and (b) above, calculate the length of coastline within the range of the pest species.

- i. BRS should undertake the steps outlined in item 5(b) and (c) and can be contacted via the Consultative Committee on Introduced Marine Pest Emergencies (CCIMPE) secretariat.
- e) The results of this process will be:
 - i. a length (in kilometres) of affected coastline for each state and the Northern Territory
 - ii. a length of affected coastline (in kilometres) for Australia as a whole
 - iii. a map showing the potential range of a species based on the critical life limiting phase range (or relevant temperature tolerance).

[DRAFTING NOTE: update info on 5.1 CCIMPE Trigger List Species following consultation with CCIMPE]

5.1. CCIMPE Trigger List Species

- a) If a marine pest species is currently on the CCIMPE trigger list, or will be added to the list in the future, the potential length of coastline affected for each state should be predetermined as part of preparedness measures.
- b) Percentage contribution figures for each state and the Northern Territory are maintained by the CCIMPE secretariat.
- c) CCIMPE should review the methods, figures and guidelines used for national response cost sharing analysis every two years. The formula should evolve to incorporate any new technology, data or species identified since the previous review.

5.2. Critical Life Limiting Phase Temperature Tolerances

The following critical life limiting phases have been taken from the BRS (2008) and should be used to determine the cost sharing arrangements for marine pest incidents.

Microalage—when asexual cell division or sexual reproduction occurs.

Examples: Dinoflagellates, diatoms, algae that require the aid of a microscope to be seen.

Macroalgae—cues the release of spores/gametes into the water column or the most optimal conditions for a fragment to flourish.

Examples: seaweeds, algae, kelp that can be seen without the aid of a microscope.

Echinoderms—when mature individuals release their gametes into the water column.

Examples: starfish, brittle stars, sea urchin, sand dollar, sea cucumbers.

Crustaceans—cues individuals to mate and allows optimal conditions for the eggs/larvae to develop.

Examples: crayfish, crab, barnacle, shrimp, lobster.

Molluscs—cues individuals to spawn and allows optimal conditions for the larvae to develop.

Examples: shellfish, squid, octopus, snails.

Polychaetes—cues individuals to spawn and allows optimal conditions for the larvae to develop.

Examples: segmented worms: fanworms, sandworms, lugworms.

Tunicates—cues individuals to spawn and allows optimal conditions for the larvae to develop.

Example: seasquirts

Jellyfish/Ctenophora—cues individuals to release their gametes into the surrounding water and allow optimal conditions for the developing larvae.

Examples: comb jelly (Ctenophora), jellyfish types.

Fish—cues individuals to mate or lay/fertilise eggs, and allows optimal conditions for the larvae to develop.

Examples: sharks, rays, eels, lampreys, seahorses, finfish.

6. Parameters for cost-sharing of responses to pest incidents in marine environments

6.1. Population parameters

With regard to pest incidents in marine environments, the following parameters will be used to determine the Australian and jurisdictional populations.

- a) Each population value used should be the most recent and accurate available. The most recently available Australian Bureau of Statistics Australian Demographic Statistics Population parameters will be used to estimate populations. The New South Wales population will not include Jervis Bay.
- b) All population figures will include those of relevant islands in each jurisdiction.
- c) The sum of the populations for the states and the Northern Territory will be used as the total population of Australia. The population of Jervis Bay is excluded from the calculations of the New South Wales population as it comes under the jurisdiction of the Commonwealth. The total Australian population does not include the Australian Capital Territory population.

6.2. Length of coastline parameters

For the purposes of pest incidents in marine environments the following parameters will be used to determine the length of coastline.

- a) Each value should be the most recent, accurate figure available (see item 3.7 to this attachment).
- b) The figures will include those of relevant islands in each jurisdiction.
- c) The New South Wales figure should not incorporate the Australian Capital Territory's (including Jervis Bay) length of coastline.
- d) The total length of Australian coastline should not include that of Jervis Bay.
- e) The sum of the coastline lengths for the states and the Northern Territory should be equal to the total length of the Australian coastline.

7. Formula for calculating cost-sharing arrangements for pest incidents in marine environments

Cost-sharing for pest incidents in marine environments is calculated using the following steps:

Step 1: Determine the length of potentially affected Australian coastline in accordance with item 5(d) of this attachment.

Step 2: Calculate the number of people potentially affected in a particular jurisdiction: The number of people in potentially affected area in that jurisdiction equals:

$$\frac{\text{Jurisdiction population} \times \text{length of potentially affected jurisdiction coastline}}{\text{total length of jurisdiction coastline}}$$

Step 3: Repeat Step 2 for all potentially affected jurisdictions.

Step 4: Calculate the total number of people affected in Australia: The total number of people potentially affected in Australia equals:

The sum of the number of people potentially affected in each potentially affected jurisdiction (i.e. jurisdiction A + jurisdiction B + and so on)

Step 5: Calculate a jurisdiction's share of the combined investment in accordance with clause 7.2(d) of this agreement.

Step 6: Repeat Step 5 for each potentially affected jurisdiction.

For example, cost-sharing for a pest incident with four potentially affected jurisdictions:

Jurisdiction	Percentage share of each jurisdictions' contribution (note: the total contribution from the jurisdictions is 50 per cent of total costs with the Commonwealth contributing the other 50 per cent)
Jurisdiction A	32.5 per cent
Jurisdiction B	44.2 per cent
Jurisdiction C	7.5 per cent
Jurisdiction D	15.8 per cent
Total	100 per cent

Attachment 4E – Potential distribution of marine diseases and potentially affected populations

1. Introduction

- a) This attachment provides guidance on the process to be undertaken in determining the total potential distribution of a marine disease and the potential percentage of the host population(s) that could be affected.
- b) The potential distribution of a marine disease represents the distribution of any and all host species it can infect.
- c) This determination relates to calculating, in accordance with clause 7.2(d) of the agreement what percentage of the total potentially affected area is represented by a party's jurisdiction which, in turn leads to a determination of the party's percentage of risk and, subsequently, the number of people in that jurisdiction affected by a disease occurrence.
- d) This process does not include analysis of potential impacts as these would be considered in the technical feasibility and benefit:cost analyses.

2. Fundamental assumptions for determining the potential distribution of marine diseases

In modelling the potential distribution of a marine disease, the following fundamental assumptions apply:

- a) The contemporary situation will continue. The analysis will not include a consideration of possible future factors affecting the projected potential distribution, for example, climate change or changes in management actions.
- b) The disease has been evenly spread across susceptible host species in Australia's waters. The analysis will not be concerned with the pathway by which a disease might enter or has entered the country, nor with the potential rate of its spread, but, rather, it will be concerned with the areas in which the disease could persist and/or become established.
- c) There are no physiological or biological barriers to establishment or spread of the disease (i.e. the model assesses the area of climate match suitability where the disease could become endemic if it could successfully establish in one or several hosts).
- d) A general situation is to be relied on. While discussion of exceptions is important, the advice to be provided would be for the general situation.

3. Data requirements for determining the potential distribution of marine diseases

3.1. Introduction

The information required, or which would be useful, for determining the potential distribution of marine diseases includes:

- a) essential data—a prerequisite for a determination
- b) valuable data—which will assist with a determination

- c) secondary data—which will also assist with a determination.

3.2. Essential data

At a minimum, a determination of the potential distribution of a marine disease requires the following types of data:

- a) Information underpinning correct diagnosis/taxonomic identification
- b) Known Australian potential host/s and their range. Data on the types and range of hosts or habitats for determining the potential distribution of marine diseases, provided it is available and incontrovertible
- c) Known minimum and maximum temperature and salinity tolerances for the disease agent and host species
- d) Knowledge of overseas host/s and geographical ranges of the aetiological agent
- e) Sea temperature and salinity for Australian coastal waters.

3.3. Valuable data

Data on reproductive abilities of the host species and pathogen are valuable.

The behaviour of the infected hosts including whether they are potamodromous (migrate within fresh water only); diadromous (travel between salt and fresh water); anadromous (live in the ocean mostly, and breed in fresh water); catadromous (live in fresh water, and breed in the ocean); amphidromous (move between fresh and salt water during their life cycle, but not to breed).

3.4. Secondary data

- a) Secondary data that directly affect the potential distribution of a disease can be used to determine the potential area of infection. Secondary data will only be used if all parties on the NBMCC agree and only if it is available, highly relevant and incontrovertible.
- b) Secondary data includes:
 - i. Knowledge of overseas hosts and geographical ranges—this can be used to infer temperature and other environmental tolerances if reliable data is not available relating to both the disease agent and potential host species.
 - ii. Evidence for the tolerance of a disease agent to other limiting factors, such as temperature and salinity.
- c) If secondary data are known to limit the extent of potential distribution they should be combined with the modelling output to increase the robustness of the conclusions on potential distribution.
- d) It may also be useful to analyse a number of factors to establish the timing of management actions and response arrangements. Such factors may include:
 - i. mechanisms of pathogen transmission
 - ii. knowledge of potential vectors
 - iii. natural barriers.

3.5. Level of confidence in the essential data

- a) When providing advice to the NMG, the NBMCC will need to advise on the level of confidence it has in the information underpinning its distribution map for a particular disease agent and its host species.
- b) The most accurate data available should be used.
- c) The best sources of data are:
 - i. National Information Systems
 - ii. Published, peer-reviewed data.
 - iii. Museum/collection records, unpublished government records including unpublished survey reports, laboratory reports and catch-effort fisheries databases.
 - iv. Expert advice, properly elicited.
- d) Other sources of data that may be available are:
 - i. free databases (e.g. Fishbase, Sealifebase)
 - ii. internet sources, where the level of confidence ranks (highest to lowest):
 - A. validated data sources with open access
 - B. validated data sources without open access
 - C. survey data that uses recognised methods and
 - D. open access (e.g. Google search).
- e) Where data are not validated, these sources should be checked and validated where possible. The data sources listed in item 3.5(d) of this attachment should be assessed according to their confidence rating (see table in item 3.5(h) of this attachment). Assessment of survey data should consider the methodology used in the survey. Where survey methodology is not available, a low confidence rating should be assigned to these data. Surveys which follow international standards, or OIE reporting standards (for animal diseases) should be assigned a higher confidence rating. Note that aquatic organism distribution data and aquatic parasite distribution data are non-parametric.
- f) Closely related host and pathogen species information should be used with caution as there is no direct correlation between surrogates and actual disease species. Likewise, host susceptibility data based on laboratory challenge studies should be used with caution.
- g) Formal and informal networks of experts are an essential source of information and data. These networks should be encouraged and communicated to ensure timely and effective decision-making.
- h) A table outlining the confidence rating of different data sources is provided below.

Document Type or Information Source	Confidence Rating
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Consultation Draft Only

<ul style="list-style-type: none"> • Peer-reviewed scientific paper 	High
<ul style="list-style-type: none"> • High quality science or species specific books, non-peer reviewed scientific paper (e.g. conference proceedings), • Personal communications from experts (e.g. PhD, or higher degree on species being assessed), • Unpublished reports from highly reliable sources (e.g. commercial reports or honours theses, etc.), • Internet information from Herbaria data, or • Internet information that cites sources from the 'Medium/High' category above. 	Medium/ High
<ul style="list-style-type: none"> • Personal communications from people with experience with the agent/species under assessment, • Information from general reference books • Data that relates to indirect tolerance ranges (n.b. this includes laboratory testing, in situ environmental ranges) • Internet information that cites sources from the 'Medium' category, or • Internet information from government or university websites (e.g. Australian state governments, or the USDA) 	Medium
<ul style="list-style-type: none"> • Anecdotal data from non-experts, • Internet information that cites anecdotal non-expert sources, • Internet information from uncertain/uncited sources, • Unpublished reports from uncertain sources, • General web pages. • Literature and data obtained from similar agent/host species (e.g. the same family or genus). 	Low

- i) There is a risk that increasing the acceptable level of confidence in the quality of the data will reduce the quality of a prediction by reducing representativeness. Sensitivity analysis is needed to determine the influence of poor quality data. Effort can then be directed to verifying influential, poor quality data.

3.6. Insufficient data

If there is insufficient data on a particular disease agent or its potential hosts to model the potential range, then the cost-sharing model defaults to a population basis, i.e. the percentage contributed by each state and the Northern Territory is determined based on the population, where the combined percentages for each state and Northern Territory is equal to 100.

3.7. Preferred datasets

- a) The most recently available Australian Bureau of Statistics parameters will be used to estimate the length of coastline. They are published in the 1301.0 Year Book Australia, Geography of Australia section (or the superseding document) (www.abs.gov.au). The New South Wales coastline will not include the Jervis Bay territory.
- b) Temperature tolerance data should be obtained from a literature review process using both high and low confidence data.
- c) The most appropriate sources of data will be used to determine sea temperatures, bearing in mind that sea surface temperatures change seasonally, are influenced by local weather and that differences occur with changing depth.
- d) Additional data sets that may be used as secondary data are:
 - i. ABARES
 - ii. Heritage features, such protected sites, World Heritage Areas and the national estate.
- e) Due to the scale of the input data, the analysis should be made at the native resolution level and presented as a 10 km x 10 km grid.

4. Modelling software for determining the potential distribution of hosts of marine diseases

None available at present. Cases will need to be evaluated as they occur.

5. Processes and procedures for determining the length of coastline potentially affected

5.1. Processes and procedures

The potential distribution is the extent (in kilometres) of coast that may potentially be inhabited by hosts of a disease agent, i.e. 'length of coastline affected'. Noting item 5.2 of this attachment, the following process is recommended to determine the total length of coastline for Australia and for each relevant state/territory:

- a) Identify the disease/infectious agent.
- b) Identify the potential host(s).
- c) Determine the minimum and maximum significant environmental tolerances for the disease agent.
 - i. The most accurate environmental tolerance range of a disease agent should be used when determining the potential distribution. Dependent on

- the species information available, this will be determined by combining environmental tolerance data on a species, noting that the environmental tolerance data used may still overestimate the potential range.
- ii. Only if the abovementioned option is not available should low confidence data be used (in order of preference).
 - iii. Environmental data should be sourced from a literature review process using both high and low confidence data.
 - iv. Other variables that are considered driving factors in the distribution of a disease, may be incorporated into the formula, as decided by the NBMCC on a case-by- case basis.
 - v. Where additional layers of data are to be used in the analysis they will also need to be scientifically determined. Any modifiers that are used must be incontrovertible and fully documented.
- d) Determine the minimum and maximum significant environmental tolerances for the hosts.
- i. The most accurate environmental tolerance range of a potential host/s should be used when determining the potential distribution. Dependent on the species information available, this will be determined by combining environmental tolerance data on a species, noting that the environmental tolerance data used may still overestimate the potential range.
 - ii. Only if the abovementioned option is not available should low confidence data be used (in order of preference).
 - iii. Environmental data should be sourced from a literature review process using both high and low confidence data.
 - iv. Other variables that are considered driving factors in the distribution of host/s, may be incorporated into the formula, as decided by the NBMCC on a case-by-case basis.
 - v. Where additional layers of data are to be used in the analysis they will also need to be scientifically determined. Any modifiers that are used must be incontrovertible and fully documented.
- e) Determine the sea temperature for Australian coastal waters.
- i. Use appropriate databases.
 - ii. Use the highest spatial resolution possible to allow the greatest possible discrimination between areas that may be, as opposed to those that would not be, within the potential range of a particular species.
- f) Using a Range Mapping tool and the data obtained from items 5.1(a) and (b) above to calculate the length of coastline within the range of the disease agent and its host species.
- i. ABARES should undertake the steps outlined in item 5.1(c) and (d) and can be contacted via the Aquatic Consultative Committee on Emergency Animal Diseases (AqCCEAD) secretariat.

- g) The results of this process will be:
- i. a length (in kilometres) of affected coastline for each state and the Northern Territory
 - ii. a length of affected coastline (in kilometres) for Australia as a whole
 - iii. a map showing the potential range of a species based on the critical life limiting phase range (or relevant temperature tolerance).

[DRAFTING NOTE: update 5.2 Trigger list species following consultation with SCAAH secretariat]

5.2. Trigger List Species

- a) If a marine disease agent is currently on the OIE/Australia's National List of Reportable Diseases of Aquatic Animals, the potential length of coastline affected for each state should be predetermined as part of preparedness measures.
- b) Percentage contribution figures for each state and the Northern Territory are maintained by the SCAAH secretariat.
- c) SCAAH should review the methods, figures and guidelines used for national response cost sharing analysis every two years. The formula should evolve to incorporate any new technology, data or species identified since the previous review.

6. Parameters for cost-sharing of responses to disease incidents in marine environments

6.1. Population parameters

With regard to disease incidents in marine environments, the following parameters will be used to determine the Australian and jurisdictional populations.

- a) Each population value used should be the most recent and accurate available. The most recently available Australian Bureau of Statistics Australian Demographic Statistics Population parameters will be used to estimate populations. The New South Wales population will not include Jervis Bay.
- b) All population figures will include those of relevant islands in each jurisdiction.
- c) The sum of the populations for the states and the Northern Territory will be used as the total population of Australia. The population of Jervis Bay is excluded from the calculations of the New South Wales population as it comes under the jurisdiction of the Commonwealth. The total Australian population does not include the Australian Capital Territory population.

6.2. Length of coastline parameters

For the purposes of disease incidents in marine environments the following parameters will be used to determine the length of coastline.

- a) Each value should be the most recent, accurate figure available (see item 3.7 to this attachment).
- b) The figures will include those of relevant islands in each jurisdiction.

- c) The New South Wales figure should not incorporate the Australian Capital Territory's (including Jervis Bay) length of coastline.
- d) The total length of Australian coastline should not include that of Jervis Bay.
- e) The sum of the coastline lengths for the states and the Northern Territory should be equal to the total length of the Australian coastline, less that belonging to the Commonwealth.

7. Formula for calculating cost-sharing arrangements for disease incidents in marine environments

Cost-sharing for disease incidents in marine environments is calculated using the following steps:

Step 1: Determine the length of potentially affected jurisdictional coastline in accordance with item 5.1 of this attachment.

Step 2: Calculate the number of people potentially affected in a particular jurisdiction: The number of people in potentially affected area in that jurisdiction equals:

$$\frac{\text{Jurisdiction population} \times \text{length of potentially affected jurisdiction coastline}}{\text{total length of jurisdiction coastline}}$$

Step 3: Repeat Step 2 for all potentially affected jurisdictions.

Step 4: Calculate the total number of people affected in Australia: The total number of people potentially affected in Australia equals:

The sum of the number of people potentially affected in each potentially affected jurisdiction (i.e. jurisdiction A + jurisdiction B + and so on)

Step 5: Calculate a jurisdiction's share of the combined investment in accordance with clause 7.2(d) of this agreement.

Step 6: Repeat Step 5 for each potentially affected jurisdiction.

For example, cost-sharing for a marine disease incident with four potentially affected jurisdictions:

Jurisdiction	Percentage share of each jurisdictions' contribution (note: the total contribution from the jurisdictions is 50 per cent of total costs with the Commonwealth contributing the other 50 per cent)
Jurisdiction A	32.5 per cent
Jurisdiction B	44.2 per cent
Jurisdiction C	7.5 per cent
Jurisdiction D	15.8 per cent
Total	100 per cent

Attachment 4F – Response Plan accounting and reporting requirements

1. Statement of expenditure

1.1. Introduction to requirements

- a) This item provides a guide to the structure and content of the report to be submitted by the notifying party to the NMG at each relevant NMG meeting.
- b) The sub-headings below may be used as a checklist to help develop the reports. The reports, however, do not necessarily need to refer to all matters covered in the sub- headings.
- c) The amount of detail will depend on the nature and extent of the Response Plan, and the stage at which the plan is at.

1.2. Response Plan

Approved expenditure limit	\$
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1.3. Staffing

a) Agency staffing Salary and wages of staff employed Eligible staff directly employed with the Response Plan (X persons by \$/day by Y days): <ul style="list-style-type: none"> i. salary and wages ii. on-costs (e.g. payroll tax, superannuation, insurance, leave for staff engaged directly) 	\$
b) Contracted staff Fees for consultants, contractors or externally funded staff assisting directly with the national response plan, or who are backfilling existing, permanent staff assisting directly with the plan The fees and allowances will be at rates approved by the NMG or another relevant fee structure	\$
c) Financial and/or equivalent in-kind contributions made by non-government entities that are voting members at NMG	\$
d) Volunteers Reimbursements to volunteer emergency service personnel will be negotiated with the service provider, but, generally, will be limited to out-of-pocket or incidental expenses	\$

e) Allowances <ul style="list-style-type: none"> i. Meal allowances for all people assisting directly with the response plan, if meals are not provided (X persons by \$/day by Y days) Y days) ii. District allowances for eligible staff (X persons by \$/day by Y days) iii. Penalty rates iv. Accommodation assistance (X persons by \$/day by Y days) 	\$
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1.4. Operating expenses

a) Costs of additional staff (X persons by \$/day by Y days)	\$
b) External laboratory services (\$/test by X tests)	\$
c) Stores and equipment	\$
d) Other essential operating costs as determined by the NMG and specified in the Response Plan	\$

1.5. Capital costs

Cost arising from obtaining (or obtaining the use of) essential equipment for the immediate servicing needs of the response plan	\$
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1.6. Owner reimbursement costs

Refer to item 3.4 of Schedule 5.	\$
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2. Monitoring of expenditure

2.1. NMG to set upper limit of expenditure

The NMG will set an upper limit and review points on expenditure by reference to:

- a) the indicative budget that forms part of the approved Response Plan
- b) the willingness of the parties to commit to that limit, having regard to the cost-sharing principles.

2.2. Commitment of expenditure by the parties

The parties may commit expenditure without reference to the NMG, provided the budget and actual expenditure reported to the NMG from time to time (in accordance with item 2.1 of this attachment) are within the conditions set for the approved Response Plan.

2.3. Review of upper limit of expenditure

The upper limit should be regularly reviewed by the NMG and communicated to the parties, including non-government entities that are voting members at NMG, involved in implementing the Response Plan.

2.4. Effect of upper limit of expenditure

Expenditure in excess of the upper limit may not be approved by the NMG for cost-sharing.

Attachment 4G – Response Plan audit requirements

1. Introduction

This attachment sets out the detailed requirements for:

- a) efficiency audits obtained by the NMG in accordance with clause 7.12 of the agreement.
- b) financial audits arranged and obtained by the notifying party in accordance with clause 7.12 of the agreement.

2. Efficiency auditing

2.1. Role of the efficiency audit

The efficiency auditor should undertake a systematic and independent examination to determine whether activities undertaken by the affected parties comply with the relevant Response Plan and the plan is implemented effectively and will achieve its objectives.

2.2. Matters relevant to efficiency audit

The efficiency auditor must have regard to whether:

- a) the activities detailed in the national response plan are being implemented as described
- b) the activities of the notifying party are conducted in an effective and efficient manner
- c) the costs
 - i. incurred by the notifying party, or any other affected party, are in accordance with the plan; and
 - ii. that those parties agree to cost-sharing
are valid, accurate and in accordance with item 3 of Schedule 4
- d) if necessary, a recommendation for corrective action to modify the response plan is required.

2.3. Frequency of efficiency audits

- a) The efficiency auditor will be required to undertake progressive audits during the course of the national response plan's implementation:
 - i. as required by the affected parties
 - ii. at the end of each six months (or any other agreed period) from the start of the response.
- b) The efficiency auditor must provide a final report to the NMG within 60 days of proof- of-freedom.

2.4. Compliance with auditing standards

The audit must be conducted in accordance with Australian auditing standards.

3. Financial auditing

3.1. Matters relevant to the financial auditor

The financial auditor must have regard to the following:

- a) attestation of financial data incorporated in prescribed financial statements prepared by the affected parties seeking cost-sharing payments, including the expression of an opinion as to whether the financial statements fairly present the financial position and the results of financial operations in terms of this agreement, accounting standards and other administrative guidelines
- b) examination of financial systems and transactions, including an evaluation of compliance with this agreement
- c) reporting of observations or suggestions about any matters arising from audits that the auditor considers should be brought to the attention of the affected parties or the NMG
- d) where they become apparent in the course of the audit, the identification of any potential claims or litigation matters which may involve any affected parties, whether jointly or individually, and the extent of any exposure to such claims or litigation
- e) any other activities and issues that the affected parties may require.

3.2. Financial auditor to have access to records

The financial auditor is entitled, at any reasonable time, to full and free access to all documents, records and property relevant to an audit, and should receive the necessary cooperation from all affected parties in undertaking an audit.

3.3. Frequency of financial audits

A final financial audit report will be provided to all affected parties and the NMG within 60 days of proof-of-freedom (or on another date agreed to by the affected parties).

3.4. Compliance with auditing standards

The financial audits must be conducted in accordance with Australian auditing standards.

SCHEDULE 5 – LEGISLATIVE AND ADMINISTRATIVE ARRANGEMENTS

1. Introduction

This schedule outlines the approach parties should adopt in reviewing their legislative and administrative arrangements, as required under clause 9 of the agreement.

1.1. Emergency response

In determining whether the legislative and administrative arrangements support a party's commitments under this agreement, the parties should consider whether the arrangements:

- a) prevent injunctions from being obtained that would restrain or prevent a party from undertaking critical emergency response measures
- b) indemnify their agencies' staff undertaking action as part of a national response
- c) empower their agencies' staff to enter properties in order to
 - i. determine the presence or absence of a pest or disease
 - ii. confirm the extent of, and manage, an incident of a pest or disease
 - iii. determine the acceptability of actions aimed at eradicating or controlling pests and diseases
 - iv. enforce the control practices required under a national response
 - v. conduct control practices; and
 - vi. conduct surveillance and monitoring
- d) empower their agencies' staff to
 - i. inspect, test, treat and disinfect any animal, plant, place, land, water or item
 - ii. take and remove for analysis or examination samples of, or from, any animal, plant, place, land, water or item considered necessary to determine the presence or otherwise of a pest or disease
 - iii. require an owner to provide adequate facilities and assistance to allow the safe and efficient conduct of the activities outlined in items (d)(i) and (ii) of this schedule; and
 - iv. require a person to take reasonable steps to provide information
- e) empower their agencies to declare any animal, plant, place (including land and bodies of water) or item as 'infected' with a pest or disease
- f) provide for immediate declarations of areas as 'infected' with a pest or disease and permit the restriction of movement of animals, plants, people, soil, water or items into, through or out of the declared area
- g) require the decontamination, by means of cleaning, disinfecting or other treatment considered appropriate, of people, animals, plants, places (including land and bodies of water) or items that:
 - i. have been declared infected to free them from a pest or disease

- ii. wish to enter or be brought into an area declared as infected; or
 - iii. have recently left an area that has been declared infected, or is suspected to be infected (whether before or after confirmation of a pest or disease being detected)
- h) permit controls to be placed on the keeping, transport or management of people, animals, plants, soil, water and items through a range of enforcement measures considered necessary to help prevent, control or eradicate a pest or disease
 - i) permit the immediate destruction of any animal, plant or item, and restrict the purposes for which they may be used
 - j) permit the destruction of animals and plants, regardless of whether they are showing any indication of infection; and require the decontamination of places, people or items to provide a buffer zone
 - k) require the identification of animals, plants, items and places, and trace the movement of people, animals, plants, items and vehicles
 - l) provide a framework for determining the circumstances under which reimbursements could be payable to landholders arising from activities undertaken to control an incident of a pest or disease
 - m) activate the powers under other disaster legislation and agencies to help with controlling an incident of a pest or disease
 - n) enable the appointment, as inspectors or otherwise, of authorised people who are not public sector employees but who need to perform duties or exercise powers during an emergency response to an incident of a pest or disease.

SCHEDULE 6 – NATIONAL MANAGEMENT GROUP

1. Introduction to the NMG

- a) This schedule sets out the arrangements for the NMG.
- b) The NMG will be the peak, national biosecurity decision-making forum through which parties would seek decisions in the event of an incident of a pest or disease. Particular decisions to be made by the NMG include whether the incident is of national significance, whether a national response is required, and the approving of the Response Plan, and cost-sharing of eligible costs of implementing a Response Plan.
- c) This schedule sets out the terms of reference, membership and meeting protocols of the NMG.

2. Terms of reference of the NMG

2.1. Overview of the terms of reference

- a) The NMG will perform the roles set out in the agreement.
- b) This description of the NMG's terms of reference provides an outline on the exercise of those roles.
- c) The NMG's roles can, in practice, be broken down into the following phases:
 - i. alert phase
 - ii. operational phase
 - iii. stand-down phase
- d) The NMG will ensure national responses comply with Australia's international rights and obligations, including those contained in the SPS agreement.

2.2. Alert phase

The NMG will (note that these actions may occur simultaneously):

- a) consider advice from the NBMCC and, if appropriate, technical working groups on a notification of an incident of a pest or disease
- b) determine whether an emergency response to an incident would be covered under an existing cost-sharing arrangement
- c) decide whether a national response is required under the agreement, by following the agreed decision-making process to
 - i. determine if the incident of the pest or disease is of national significance
 - ii. assess the technical feasibility analysis of a proposed emergency eradication response prepared by the notifying party
 - iii. assess the cost of the proposed response and the projected benefits by reviewing the benefit:cost analysis conducted by the notifying party
 - iv. approve draft Response Plans, or decide on alternative arrangements.

2.3. Operational phase

Where an incident is deemed to be of national significance, and it has been determined that a national response is required, the NMG will:

- a) decide whether to approve, on advice from the NBMCC, the draft Response Plan prepared by the notifying party
- b) oversee resource commitments and consider policy issues relating to the national response, including
 - i. receiving and considering advice from the NBMCC on technical issues
 - ii. receiving regular reports from the NBMCC, including those for budgeted, committed and actual expenditure
- c) set out the agreed limits for cost-sharing under a national response plan, for the purposes of clause 7.7 of this agreement
- d) monitor the progress of the response, including the costs, and the implementation of biosecurity measures set out in the Response Plan
- e) if required, set an upper limit on expenditure at a level less than the agreed limit referred to in item 2.3(c) of this schedule, below which the Response Plan expenditure may be committed without reference to the NMG
- f) review the Response Plan if the NMG believes the costs may exceed the agreed limits for cost-sharing specified in the Response Plan
- g) be responsible for other key decisions as set out in the Response Plan
- h) report to the Commonwealth, State and Territory Ministers responsible for biosecurity matters in relation to the Response Plan.

2.4. Stand-down phase

The NMG will:

- a) determine, on the advice from the NBMCC, whether an incident of a pest or disease that is subject to a Response Plan has been eradicated by determining whether there is proof-of-freedom
- b) determine, on the advice from the NBMCC, the likelihood that the Response Plan will meet its objectives with respect to managing an incident of a pest or disease
 - i. The Response Plan could cover objectives for an Incident Definition Phase, Transition to Management Phase, Emergency Eradication Phase or Proof of Freedom Phase
- c) review and consider the efficiency audit reports and the financial audit report
- d) review activities that are part of the national response plan and refer any issues to the National Biosecurity Committee or the NBMCC for consideration and advice
- e) report to the Commonwealth, State and Territory Ministers responsible for biosecurity matters on the outcome of the national response's activities and review processes.

3. Creation of the NMG

3.1. Creating the NMG

- a) The NMG will be established for the purposes of a particular incident of a pest or disease at the request of any party or on the advice of the NBMCC.
- b) The parties to the agreement will establish the NMG for that incident by appointing members in the manner described in item 4 of this schedule.

3.2. Dissolution of the NMG

Once the NMG has:

- a) determined that a national response is not required in relation to an incident, or an incident is notified but not ultimately verified; or
- b) determined that a national response should cease
 - i. because the pest or disease has been eradicated; or
 - ii. the NMG has determined the national response has not been, or will not be, successful in meeting its objectives

and the NMG has discharged all of its obligations relating to the incident of a pest or disease, the NMG for that incident will be dissolved.

4. Membership

4.1. Representation on the NMG

The NMG will be made up of members representing all parties to the agreement. Composition, participation and voting on NMG decisions shall be in accordance with the arrangements outlined in items 4 and 5 of this schedule.

4.2. Flexibility of NMG membership

- a) The NMG will be constituted on an incident-by-incident basis.
- b) The party agencies that will be represented as members on the NMG will depend on the nature of the incident. For each incident notified to the NMG, the parties will each nominate one lead agency to represent it on the NMG.
- c) Members of the NMG will be nominated by their agency and hold the appropriate decision making and financial delegations

4.3. Composition of the NMG

The NMG will be composed of the members and attendees as follows:

- a) Chair
 - i. One (1) representative of the Commonwealth.
 - ii. The Commonwealth will select a representative for each incident of a pest or disease, from the agency it determines most appropriate, to sit as chair of the NMG.
 - iii. The chair will not vote.

b) Voting members

- i. Voting members can participate in discussions.
- ii. Each voting member has one (1) vote on NMG decisions, except decisions about cost- sharing.
- iii. Only voting members that represent an affected party, or non-government entities that are contributing either financially or in kind to a response, can vote on NMG decisions about cost-sharing.
- iv. One (1) representative from each party.

The Commonwealth (in addition to the Chair) and each state and territory party will have one representative as a voting member of the NMG constituted for each incident of a pest or disease. That voting member will be the chief executive officer (or their nominated proxy) from the most appropriate agency agreed between the Commonwealth and all parties to be the lead agency for that incident. Voting members must liaise with that party's other agencies and represent a whole-of-government perspective on the NMG.

Note that while the Commonwealth is represented by two (2) members (one being the chair, the other being a voting member), only the voting member will vote for the Commonwealth.

- v. One (1) representative from each non-government entity that the NMG has unanimously determined to be a voting member for a particular incident having demonstrated the following :
 - A. is able to contribute to the costs of the national response, to the amounts specified at clause 7.2.2 to this agreement, and
 - B. is committed to, and will adhere to the confidentiality provisions set by the NEBRA custodian, and
 - C. is a suitable representative of a stakeholder group (for example, legal standing as a land custodian), and
 - D. there is no conflict.

c) Non-voting members

- i. Non-voting members can participate in discussions at NMG meetings, but may not vote on any NMG decisions.
- ii. The following may be non-voting members of the NMG:
 - A. one (1) representative of each interested, non-lead agency of each affected party, being the chief executive officer of that agency
 - B. one (1) representative of each non-government entity, if the NMG determines through unanimous vote, that this is appropriate
 - C. the chair of the NBMCC
 - D. the chair of any affected biosecurity sectoral committee
 - E. one (1) representative from the Custodian.

- d) Observers
 - i. Observers may attend NMG meetings but may not participate in discussions or vote on any NMG decisions.
 - ii. The following may be observers at NMG meetings:
 - A. one (1) staff member from the departments of health of each affected party and the Commonwealth
 - B. one (1) staff member from other departments of each affected party (if the chair so determines, depending on the nature of the incident)
 - C. advisers to the voting members.

5. Meeting protocols

- a) The NMG will be convened and meet as necessary:
 - i. to consider policy and financial issues associated with a particular incident of a pest or disease and the national response
 - ii. to ensure the incident and the national response is effectively managed.
- b) Members set out in item 4.3 of this schedule may be represented at meetings by a delegate so long as that delegate is able to make decisions at the meeting.
- c) Each party (which will be represented by a voting member) will have one vote on all decisions of the NMG, with the exception of decisions about cost-sharing, regardless of whether the party is an affected party.
- d) The Commonwealth's voting member will vote for the Commonwealth. The chair (also a representative of the Commonwealth) will not vote.
- e) Where an NMG decision is about cost-sharing, the following applies:
 - i. only those voting members who represent
 - A. the Commonwealth
 - B. parties that are affected parties, in relation to the incident, or
 - C. non-government entities that the NMG has determined to be a voting member for that incident, in line with criteria set out in 4.3(b)(v) to this schedule; and
 - ii. each member will have one vote on the cost-sharing decision.
- f) Decisions must be made by consensus, with the exception of cost-sharing decisions, which must be unanimous.
- g) Voting members may be accompanied by advisers with specific expertise. These people, and any other observers, will not participate in discussions or in making decisions. Through these advisers, the NMG can access advice from a range of experts including on matters such as crisis and issues management.
- h) Members of the NMG or their delegates need to be available at short notice (less than 24 hours).

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- i) The NBMCC will communicate with the NMG via its chair. The chair of the NBMCC will be represented at the NMG as a non-voting member.
- j) Secretariat services will be provided by the Commonwealth (from the relevant agency for the incident), which will provide reports of meetings to each of the participants, whether voting members, non-voting members or observers.

SCHEDULE 7 – NATIONAL BIOSECURITY MANAGEMENT CONSULTATIVE COMMITTEE

1. Introduction to the NBMCC

- a) This schedule sets out the arrangements for the NBMCC.
- b) The NBMCC is a technical committee that will advise the NMG in relation to its biosecurity decision-making responsibilities, and will have a role in coordinating national responses between the parties.
- c) This schedule sets out the terms of reference, membership and meeting protocols of the NBMCC.

2. Terms of reference of the NBMCC

2.1. General roles in relation to a national response

The NBMCC will:

- a) receive notification of pest and disease incidents following notification to the reporting point by the notifying party
- b) provide timely advice to the affected parties via the reporting point on whether it considers an NMG should be convened
- c) advise the NMG on whether the incident requires a national response
- d) consider and provide recommendations on the national significance of a pest or disease, the technical feasibility of eradication and the cost benefit of conducting a response
- e) consider and recommend Response Plans
- f) consider regular reports on progress of the response and develop a consensus on whether further actions are required
- g) provide regular, consolidated reports to the NMG on the status of the national response
- h) when an emergency eradication response is judged to be no longer technically feasible or cost beneficial, provide advice and recommendations to the NMG on:
 - i. whether a Transition to Management Phase is appropriate and if so, the scope of the Transition to Management Phase and the proposed amendments to the Response Plan for inclusion of the Transition to Management Phase, or
 - ii. whether the NMG should determine that a national response should cease and should consider options for alternative arrangements outside this agreement
- i) advise the NMG when a pest or disease has been eradicated
- j) advise the NMG when proof-of-freedom has been achieved following successful implementation of a Response Plan

- k) ensure incident responses comply with Australia's international rights and obligations, including those contained in the SPS agreement.

2.2. Role in providing technical and expert advice

The NBMCC provides technical and expert advice to the NMG, in accordance with Section 5 of the agreement, to support determinations on whether a national response is required, including advice on the following elements:

- a) identification of the pest or disease
- b) the control technique options
- c) any legislative impediments to undertaking a national response
- d) the resources required to undertake a national response
- e) interim control measures that have been put in place by the notifying party and other relevant parties
- f) the likely distribution of the pest or disease
- g) the estimated impacts of the pest or disease
- h) endemic pest or disease controls that may limit establishment
- i) identification of pathways
- j) the level of confidence that all areas affected by the incident have been identified
- k) surveillance activities in place to confirm proof-of-freedom
- l) community consultation activities.

3. Creation or selection of the NBMCC

- a) Upon notification being received by the reporting point from the notifying party of an incident of a pest or disease, the parties to the agreement will establish or select a NBMCC for that incident.
- b) The NBMCC will be established or selected, in accordance with this item, for the purposes of a particular pest or disease incident.
- c) If an existing consultative committee formed through agreement by ministers or operating in accordance with agreed arrangements could appropriately be used, it will be used as the NBMCC for that incident. Existing consultative committees include the:
 - i. Consultative Committee for Emergency Animal Diseases
 - ii. Communicable Diseases Network of Australia
 - iii. Consultative Committee for Emergency Plant Pests
 - iv. Consultative Committee on Introduced Marine Pest Emergencies
 - v. Aquatic Consultative Committee on Emergency Animal Disease
 - vi. And other committees established from time to time by Commonwealth, State and Territory Ministers responsible for biosecurity matters and

operating in accordance with approved terms of reference and operating procedures.

- d) Where:
 - i. it is not possible to assign a pest or disease incident to an existing consultative committee as the NBMCC or
 - ii. the parties determine that it would not be appropriate to use an existing consultative committee as the NBMCC for an incident
the parties must create an incident specific NBMCC.

4. Membership

4.1. Flexibility of membership of existing consultative committees

- a) Where it is possible to use an existing consultative committee as the NBMCC for a pest or disease incident, the membership should be flexible to enable the appropriate representation for that specific incident.
- b) The membership of the new consultative committee must be sufficiently flexible to allow the appropriate agencies (primary production, environment and natural resource management) relating to a specific incident to represent the affected parties on the NBMCC.

4.2. Composition of the NBMCC

The NBMCC membership will comprise the following:

- a) Chair
 - i. One (1) representative of the Commonwealth.
The Commonwealth will select a representative for each pest or disease incident from the agency it determines most appropriate to sit as chair of the NBMCC for that incident.
 - ii. The chair will not vote.
- b) Members
 - i. Members can participate in discussions.
 - ii. Each party has one (1) vote on the NBMCC recommendation to be provided to the NMG.
 - iii. One (1) representative of each party, including the Commonwealth (in addition to the chair).
 - iv. Each party will have one representative on the NBMCC constituted for each pest or disease incident. That member will be a representative from the agency that the party determines as the most appropriate. Each party's representative member must liaise with that party's other agencies and provide a whole-of-government perspective on the NBMCC and ensure that those other agencies are kept informed.

- v. One member for each non-government entity determined by the NMG, in accordance with clause 4.3 (b)(v) in schedule 6, to be a voting member at the NMG for a particular incident.
- vi. Two (2) representatives from the Department of Agriculture and Water Resources
- vii. One (1) representative from CSIRO or other relevant research organisation.
- viii. One (1) representatives from the Custodian

Note that while the Commonwealth, in effect, has five (5) representatives (the chair, and members representing the Commonwealth as a party, DAWR and CSIRO), the Commonwealth will have only one (1) vote on the recommendations the NBMCC will make to the NMG.

c) Observers

- i. Observers may attend NBMCC meetings but may not participate in discussions or vote on any NBMCC recommendations.
- ii. Members may be accompanied by advisers who have specific expertise, including health department staff (or others depending on the nature of the incident in question), if appropriate.
- iii. The chair may determine that an affected stakeholder may have a representative on the NBMCC as an observer,

5. NBMCC meeting protocols

- a) NBMCCs will be convened and meet as necessary.
- b) Members may be represented at meetings by an appropriate delegate who has the appropriate delegation to make decisions on the recommendations to be provided to the NMG.
- c) Members or their delegates need to be available at short notice (less than 24 hours).
- d) All NBMCC decisions, on the recommendations it will make to the NMG, must be made by the consensus of its members.
- e) The Commonwealth and each party have a single vote on the recommendations to be made to the NMG. All Commonwealth agencies, such as DAWR and CSIRO, and the chair, are incorporated within the Commonwealth vote on the recommendations to be made to the NMG.
- f) The number of observers/resource persons must be kept to the essential minimum.
- g) Observers will not be party to the decisions the NBMCC makes in relation to its recommendations to the NMG.
- h) All attendees must be announced and recorded as 'present' in the minutes.
- i) Members are responsible for ensuring that the observers they invite abide by the requirements of the NBMCC as detailed in this schedule.

- j) Communication with the NMG will be via the chair of the NBMCC.
- k) Secretariat services will be provided by the Commonwealth (from the relevant agency).

6. Specialist or working groups to assist the NBMCC

The NBMCC may, if it requires, establish individual, technical specialists or working groups to advise it.

SIGNING PAGE

SIGNED FOR AND ON BEHALF OF EACH OF THE PARTIES:

Signed for and on behalf of the Commonwealth of Australia by

XXXXX

Prime Minister of the Commonwealth of Australia

Signed for and on behalf of the State of New South Wales by

XXXXX

Premier of the State of New South Wales

Signed for and on behalf of the State of Victoria by

XXXXX

Premier of the State of Victoria

Signed for and on behalf of the State of Queensland by

XXXXX

Premier of the State of Queensland

Signed for and on behalf of the State of Western Australia by

XXXXX

Premier of the State of Western Australia

Signed for and on behalf of the State of South Australia by

XXXXX

Premier of the State of South Australia

Signed for and on behalf of the State of Tasmania by

xxxxx

Premier of the State of Tasmania

Signed for and on behalf of the Australian Capital Territory by

xxxxx

Chief Minister of the Australian Capital Territory

Signed for and on behalf of the Northern Territory of Australia by

xxxxx

Chief Minister of the Northern Territory of Australia