

# Subcommittee on National Plant Health Surveillance

## SNPHS Reference Standard

### *Development and Approval of National Surveillance Protocols for Plant Pests*

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## Purpose of this document

The purpose of this Subcommittee on National Plant Health Surveillance (SNPHS) Reference Standard (Reference Standard) is to guide authors in developing a surveillance protocol. It also describes the process for the protocol to be accepted as a national surveillance protocol (NSP).

A surveillance protocol is a technical reference guide for conducting surveillance on a specific plant pest or group of plant pests. It includes information on surveillance methodology, pest biology, taxonomy, identification and sample processing.

The Reference Standard may be used across all jurisdictions and national plant biosecurity surveillance programs including those undertaken by industry, government and the community, (regardless of whether approval as a NSP is required).

This Reference Standard provides a mechanism to ensure that contemporary science and surveillance practices are applied, and all relevant information is included in a consistent manner across all surveillance protocols. NSPs contribute significantly to achieving a coordinated plant health surveillance system that meets national and international requirements.

National surveillance protocols will be used for all national surveillance programs and their use is also encouraged for all other relevant surveillance activities conducted by governments and industry in Australia. A surveillance protocol is the first point of reference for developing surveillance plans.

## Scope

This document contains:

Section 1 - Reference Standard overview

Section 2 - National Surveillance Protocol template

Section 3 - National Surveillance Protocol approval process

Appendices

## **Section 1: Reference Standard overview**

The Reference Standard provides the broad principles for the structure and development of a NSP. These Reference Standard guidelines do not provide specific detail around surveillance design and statistical rationale but rather the broader concepts of surveillance design. Statistical rationale will vary significantly depending on the surveillance objective, pest and type of surveillance being conducted. Where required this information should instead be included in the surveillance plan.

Guidelines on what information to include in a NSP are provided in the surveillance protocol template in Section 2. For a protocol to become a NSP, it must go through an approval process as described in Section 3.

The NSP should be easy to read, well-structured and with an adequate amount of detail to enable readers to understand the surveillance purpose and methodology. Authors should follow the content template in Section 2 below and additional content and sub-headings may be included as required. In developing the content of the NSP, relevant sourced information and documents should be referenced. Surveillance protocols that are prepared in accordance with the instructions can be considered for approval as an NSP.

A surveillance protocol includes information and/or reference to:

- Why the surveillance is required
- Pest biology/ecology relevant to surveillance
- Risk/pathway analysis
- Surveillance methodology
- Data recording
- Diagnostic consideration

The surveillance protocol **does not** contain:

- Statistical calculations to assist with surveillance planning as this is highly variable. Individual survey statistical design is specific to pest biology, habitat and site detail, and the type of survey being undertaken. Statistical design can be sought from a biometrician or other expertise in that field at different stages such as planning, execution, and interpretation of surveys. Please note there may be mandatory requirements for some pests that need to be considered or noted.
- Site/area specific information (however, regional differences may be referred to as requiring consideration when developing surveillance plans).
- Information that is to be included in surveillance plans.

A surveillance plan includes further information specific to location, surveillance purpose and surveillance implementation, such as:

- Survey/site/region specific objectives
- Survey design and proposed statistical analysis
- Logistics
- Resources
- Operational groups for delivery
- Mapping, data collection requirements etc.
- Implementation plan
- Survey timeframe (could be a once-off project or an annual occurrence)
- Quantity of effort required to meet objectives
- Training requirements
- Sites that will be targeted to detect the pest as per guidelines in the NSP

## Section 2: National Surveillance Protocol Template

This section provides a template and instructions for developing a NSP. All instructional information should be removed once the protocol has been completed.

The cover page template is available in [Appendix 1](#).

A suggested reference list is provided in [Appendix 2](#).

Formatting required for NSPs is provided in [Appendix 3](#).

The main purpose of the protocol is to provide **high level** information to develop surveillance plans, that are specific to the surveillance requirements, purpose and locations for a particular pest. The surveillance protocol should also identify issues or gaps for the reader to consider when developing a plan. Refer to Section 1 for more detail.

The following is general advice for writing a protocol:

- A single NSP may cover a group of pests rather than a single pest, provided the surveillance required across the group is similar. If there are major differences, consider writing separate protocols.
- Text can be provided as dot points where appropriate for ease of reading.
- References should be used if further detail is required.
- The inclusion of relevant photos (including examples from previous Australian incursions if relevant) is also encouraged.
- Ensure that species and genus are clearly stated throughout the document. Common names can also be included if the species has been clearly defined.
- Plain English language should be used throughout the document.
- Avoid duplication of information between sections.
- When using less common terms, define them in the definitions table.

**Before commencing development of the NSP, read the entire template.**

### Cover page and Table of Contents

The cover page is a standardised template cover as shown in Appendix 1.

The table of contents should be design: simple, with right adjusted numbers.

### 1 Scope/ rationale

This section should include a brief statement of the biosecurity reason for conducting surveillance, including decisions that the surveillance may influence, such as market access requirements or area freedom. It should state the status of the pest in Australia. The protocol should provide advice for broad use, for example from early detection to response surveillance. If there are limitations on the use of the protocol it should be clearly stated here.

### 2 Background/introduction

This section should **summarise** the information that is included in the protocol, introducing the pest, it's impact and the surveillance opportunities. This includes:

- The potential agricultural, environmental and/or social amenity impacts of the pest in Australia.
- The pest’s native range and a description of the expanding range, highlighting incursions in near neighbour countries.
- A brief overview of entry pathways and phytosanitary or regulatory controls.
- A summary of eradication likelihood and methodology, with mention of the cost-benefit of conducting surveillance, and control or management options if eradication is unsuccessful.
- A brief summary of biology and main hosts.
- The correct scientific name of the pest (including internationally recognised synonyms) should be introduced here along with other common names if applicable.
- This section should include information on other surveillance documents relevant to the pest, such as contingency plans. They should be clearly referenced.

### 3 Glossary

This section defines the abbreviations, acronyms and the important terms used in the NSP. The terms provide a standardised language and create a common understanding of terms among reviewers and surveillance providers. Some terms may have alternate definitions in other contexts.

**Table 1** - Definitions and abbreviations

Term/abbreviation	Definition

### 4 Pest risk profile and pathway analysis

This section should be a summary of known pathway information (from e.g., CABI, Priority Pest Surveillance Requirements) that is relevant to planning surveillance activities. This section should also refer to any risk analyses the Commonwealth Department of Agriculture, has produced – provide links for publicly available documents.

#### 4.1 Entry pathways

This section should summarise the regulated and unregulated entry pathways on which the pest may enter Australia. It should also highlight any biological or other characteristics that influence the timing of active pathways that may impact the timing of surveillance.

#### 4.2 Establishment and spread

This section should include a summary of areas and particular land use where establishment is likely to occur at the end of an entry pathway, and how the pest may spread further along active onshore pathways. Onshore pathways may include localised spread through agricultural practices or further spread through natural means, supply and movement of horticulture, host plants or goods. The section should also describe people movement as well as climatic influences that encourage spread and influence establishment. Specific aspects of the pest risk profile that impact on surveillance should be clearly stated including a brief summarising statement of host and habitat availability, vector presence and if the species has become a pest elsewhere. Be aware detailed habitat and vector information is included further down and should not be repeated here.

### 5 Pest biology and ecology

This section details aspects of pest biology that influence surveillance planning. Each sub-section should be brief and used only if it is relevant to the pest and surveillance. It is permissible for sub-

sections to be combined (combine the heading) if it is useful to reduce repeatability e.g. lifecycle and transmission for pathogens might be considered in one section.

## 5.1 Detection in the field

This section should describe the pest in the field, a description of each of the morphological stages e.g., eggs, larvae, pupae and adults, and refer to any in-field keys that are available. It may include information on pest behaviour that aids detection, for example, pests that preferentially choose the highest point on a tree or take refuge in leaf litter.

## 5.2 Identification

This section must include reference to the **diagnostic protocol** if there is one. It should describe a summary of commonly used identification methods including morphological, serological and molecular methods at each life stage where relevant.

## 5.3 Lifecycle

The life cycle including rate of development, number of generations/infection cycles per year, obligate alternation between hosts etc. should be briefly described, with illustrations where relevant.

## 5.4 Habitat

The preferred habitat and the relationship between the pest and abiotic factors that will direct surveillance planning should be described in this section. Examples include the effect of seasonal/temperature variation on developmental stages, including microclimatic or regional differences as well as diapause or adaptability to adverse conditions.

## 5.5 Transmission

If relevant, briefly describe the characteristics of transmission and dissemination of the disease. Vectors are described in the next section.

## 5.6 Vector(s) or vectoring capacity

If relevant, list vectors for the pest, and/or, list pests and diseases for which the subject of this NSP is a vector. Detail the vectors' lifecycles and their status in Australia.

## 5.7 Movement

Describe the natural movement of the pest as it is relevant to surveillance e.g., does it fly away when disturbed or hide on the back of foliage. Do not duplicate information already contained in the spread, detection and vector sections above.

## 6 Host range and part of host affected

This section should contain information on the host range of the pest. For long host lists, list only family level information with a focus on species commonly found in Australia. A detailed host list should be provided as an appendix and referenced clearly. Where it is significant for surveillance methods or planning, a description of how plant parts e.g., leaves; stems; trunk; roots; fruit, and plant stages e.g., mature plants; young plants; seedlings; seed, are specifically affected, should be provided.

### Host lists

Where the descriptions are available, host lists should mention details such as whether hosts are native or wild, cultivated or common street or backyard species. A classification system that describes natural or true hosts from conditional hosts could be included where the information is available from scientific sources:

True or natural host: A plant species that may be infested or infected by a plant pest under a broad range of natural or field conditions (e.g., wild, cultivated or unmanaged plants) and on which the pest is sustained in a normal manner.

Conditional Host: A plant species that is only a host under a defined narrow range of conditions for which specific evidence is available and those conditions should be clearly described e.g., a host that is only fed on, a pest that must complete its lifecycle over different hosts or other ecological or environmental constraints.

## **7 Pest damage/disease expression**

Edit the heading as necessary for the pest. This section should describe the signs and symptoms of pest damage or disease expression. Clear photographs should be provided to aid detection and field identification. Highlight any dormant periods or the timing and abiotic factors when symptoms/damage are most easily seen, as well as other conditions which symptoms could be confused with e.g., nutrient deficiencies

## **8 Surveillance methodology**

Descriptions are provided below for sections that make up surveillance methodology. Surveillance methods can be drawn from existing techniques in Australia, methods described in pest specific contingency plans and demonstrably sound methods used around the world. References are encouraged and should include the most contemporary approaches available for the pest.

### **8.1 Survey locations**

This section should describe the type of land-use areas, habitats, and hosts that should be surveyed for the targeted pest. Examples include residential areas, forests, cultivated regions with reference to specific host abundance. Where available, include detail on the habitat limits in Australia.

The selection of survey locations should be based on risk pathway analysis and establishment potential and consider the biology and habitat of the pest, vectors and the hosts.

### **8.2 Surveillance methods**

This section should describe the available techniques for surveillance and their relative strengths and weaknesses, such as cost, availability, specificity and confidence in detection. Refer to successful examples in the literature, overseas or past detections in Australia. This section should identify if there are different techniques that are best for early detection, pest status/area freedom and delimiting surveillance.

Some examples of surveillance techniques include visual inspection, trapping, sweep netting and tissue sample collection. The application of each technique for surveillance should be detailed e.g., which hosts should be sampled or what trap and lure combination should be used. This section may also outline surveillance methods that are not to be used and the supporting and referenced reasons. Photos that provide clarity should be included.

### **8.3 Survey timing and frequency**

This section should supply information that can be used to direct surveillance planning and give options for best case response. Resourcing is at the discretion of the surveillance programs. In determining timing and frequency, consideration should be given to:

- Biology of the pest and the host as it relates to their potential lifecycle in Australia and the impacts that has on detectability.
- Biology of the pest as it relates to increasing or decreasing activity on entry pathways across the year.

- Seasonality and impacts of weather e.g., trap clearances increase during the wet season to maintain the integrity of the samples.

## 8.4 Sample handling

The template below should be used at the beginning of this section to define the general sample handling processes and contacts. Sample handling information specific to the pest should follow and include procedures described in diagnostic protocols if they are available. This section should include, where relevant, reference to:

- Sample/specimen collection, including the number or size of samples required for diagnostics.
- Labelling (for traceability and uniqueness).
- Transport and allowable timeframes from collection to laboratory.
- Storage and necessity for storage medium to maintain integrity for different diagnostic tools - consider impacts of DNA degradation or colour leaching from the specimen.

This section should also provide information on appropriate hygiene practices that should be followed while handling samples to reduce cross contamination.

Contact details of jurisdictions below should be confirmed during the NSP review process.

### Template:

**By law everyone must comply with biosecurity legislation when moving any suspect exotic plant pest sample, including when sending samples for identification.**

In developing a surveillance program, all participants must be clear about their obligations regarding what to do if suspect samples need to be moved.

If movement obligations are not understood, contact the Emergency Plant Pest hotline on 1800 084 881, to obtain instructions to collect and move samples safely.

General diagnostic laboratory contact, preparation and sample submission information is provided below in **Table 3**.

All laboratories should be contacted before sample submission to determine if they have suitable diagnostic capability for the pest (including the life stage being sampled) and have appropriate accreditation to receive biosecurity material. In some cases, specimens may need to be collected as live samples for diagnostic reasons and the laboratory must meet jurisdictional requirements to handle live specimens.

**Table 3** – State and territory diagnostic contacts for submission of suspect plant pest samples.

Jurisdiction	Contact details
Queensland	13 25 23 Submitters will be advised what to do with samples through this service.
Western Australia	08 9368 3080 Photos of samples can also be submitted through MyPestGuide app or website Preparation and submission: <a href="https://www.agric.wa.gov.au/livestock-biosecurity/sending-specimens-identification">https://www.agric.wa.gov.au/livestock-biosecurity/sending-specimens-identification</a>
South Australia	(08) 8429 2249 Preparation: <a href="https://pir.sa.gov.au/data/assets/pdf_file/0020/236234/Packaging_Brochure_low.pdf">https://pir.sa.gov.au/data/assets/pdf_file/0020/236234/Packaging_Brochure_low.pdf</a> Submission: <a href="https://pir.sa.gov.au/research/services/crop_diagnostics/insect_diagnostic_service">https://pir.sa.gov.au/research/services/crop_diagnostics/insect_diagnostic_service</a>
New South Wales	1800 680 244 <a href="mailto:biosecurity@dpi.nsw.gov.au">biosecurity@dpi.nsw.gov.au</a> Preparation and submission: <a href="https://www.dpi.nsw.gov.au/about-us/services/laboratory-services/plant-health/collecting-and-submitting-plant-or-insect-samples">https://www.dpi.nsw.gov.au/about-us/services/laboratory-services/plant-health/collecting-and-submitting-plant-or-insect-samples</a>

Northern Territory	(08) 8999 2118 Submission: <a href="https://nt.gov.au/industry/agriculture/food-crops-plants-and-quarantine/plant-diseases-and-pests/plant-pathology-and-entomology-contacts">https://nt.gov.au/industry/agriculture/food-crops-plants-and-quarantine/plant-diseases-and-pests/plant-pathology-and-entomology-contacts</a>
Victoria	(03) 9032 7515 Submission: <a href="https://agriculture.vic.gov.au/support-and-resources/services/diagnostic-services">https://agriculture.vic.gov.au/support-and-resources/services/diagnostic-services</a>
Tasmania	(03) 6165 3777 <a href="mailto:plantdiagnosticservices@dpiwve.tas.gov.au">plantdiagnosticservices@dpiwve.tas.gov.au</a> Preparation and submission: <a href="https://dpiwve.tas.gov.au/biosecurity-tasmania/plant-biosecurity/plant-diagnostic-services">https://dpiwve.tas.gov.au/biosecurity-tasmania/plant-biosecurity/plant-diagnostic-services</a>

## 9 Record keeping

(New page, landscape orientation). The template below should be used in the record keeping section.

Data Protocols are based on the Pest Record Specification and include controlled vocabulary lists specific to the pest or pest group. Controlled vocabulary lists are standardised lists of responses to data fields that would otherwise have freeform responses. Controlling the vocabulary in the fields at the input level removes the possibility of erroneous interpretation and ensures consistency across all surveillance data. The record keeping section of an NSP must link to a Data Protocol that has been published on the PSANP website. If a data protocol is not already available, one must be created:

1. The NSP author should check the published controlled vocabulary lists and generate the necessary controlled vocabulary fields for the specific pest.
2. In many cases, terms already included in the controlled vocabulary lists will be suitable to use in the new Data Protocol, if additional vocabulary is required it should be well-defined in the NSP and listed in the table below.
3. On final endorsement of the NSP, the NSPWG will facilitate the addition of new terms to the controlled vocabulary repository and a new Data Protocol will be generated and published to the PSANP website.
4. A link to the Data Protocol will be included in the NSP before publication.

### Template:

Surveillance data captured for use in the plant health surveillance system in Australia should be collected using the Pest Record Specification. This biosecurity specific data standard is endorsed for use by the Sub-committee on National Plant Health Surveillance and Plant Health Committee and is maintained by the Commonwealth. Surveillance planning should include the development of a program data standard, based on the Pest Record Specification, and utilising any relevant pest-specific data protocols. Information on using the Pest Record Specification and Data Protocols is available on the Plant Surveillance Network Australasia-Pacific (PSNAP) website.

A pest specific data protocol for (pest name) has been developed and is available on the PSNAP website.

When undertaking surveillance, the data fields to be collected must be considered for individual pests and surveillance methods and the data protocol describes the mandatory, required and optional data fields. A number of data fields have specific controlled vocabulary from which they must be filled. Controlled vocabulary lists are included in the data protocol and tabled below, based on the methods and technology described in this protocol.

**Table 4** – Controlled vocabulary lists for (pest name)

<b>scientificName</b>	<b>inspectionMethod</b>	<b>hostMaterial</b>	<b>non-hostMaaterial</b>	<b>lureType</b>	<b>trapType</b>	<b>protocolID</b>
<p><i>Halyomorpha halys</i></p> <p><i>(This should be a list of the valid taxonomic names of pests covered by this protocol)</i></p>	<p>Trapping</p> <p>Visual surveillance</p> <p>Sweep netting</p> <p>Beating tray</p>	<p>Plantae</p> <p>Host lists provided in Appendix one</p> <p><i>(This should be the lowest taxonomic level of hosts available (polyphagous pests), and should provide a link to a host list)</i></p>	<p>Container</p> <p>Machinery</p> <p>Vehicles</p> <p>Premises</p> <p><i>(Non-host material lists should be taken from the published ontology of controlled vocabulary as is relevant for the pest pathways)</i></p>	<p>BMSB lure</p> <p><i>(List all available lures as described in this protocol – names can be taken from or added to the published lists)</i></p>	<p>Tall black pyramid trap</p> <p>Yellow sticky trap</p> <p>Clear sticky trap</p> <p>Cross-vane panel trap</p> <p><i>(List all available traps as described in this protocol – names can be taken from or added to the published lists)</i></p>	<p>Brown marmorated stink bug</p> <p><i>(A standardised protocol name should be provided for this NSP)</i></p>

## 10 Research and development

This section might identify knowledge gaps in areas relevant to surveillance including but not exclusive to:

- Basic biology.
- Climate modelling (including climate change).
- Trapping or surveillance technology.
- Diagnostic methods and the limitations.
- Pest control and management.
- The use of citizen science.

This section should be well referenced and reviewed regularly.

### 10.1 Triggers for protocol review

This section should highlight pest-specific reasons each protocol may require review. Examples of general triggers are given below, noting triggers in each protocol must be specific, can be related directly to described research and development, and should be referenced where relevant.:

- Changes to market access or market access surveillance requirements relevant to the pest.
- Technological advances in surveillance and/or diagnostic techniques relevant to pest surveillance.
- New significant pathways identified or changes in pest risk or pathway analysis relevant to the pest.
- A significant change to the Reference Standard.
- The endorsement of a new or update of a respective National Diagnostic Protocol.

## 11 Contact and further information

This section should include any information required on pest/host expert details included with sufficient detail i.e., titles, contact details and position.

## 12 References

(New page). In this section include references cited in the NSP. Any documents used to obtain the information within the surveillance protocol must be referenced. This includes scientific publications, published surveillance procedures and manuals, web sites and personal communications.

Reference style is described in Appendix 2.

## 13 Appendices

(New page). Appendices are to be used to provide essential detailed information relevant to the NSP, such as host lists.

## Section 3: National Surveillance Protocol Approval Process

### Introduction

This section describes the steps involved in creating a surveillance protocol, from development to review and endorsement of a NSP by Plant Health Committee (PHC) (see [1](#)).

### Identify priorities

SNPHS identifies government priorities for development of new NSPs or review of existing NSPs. These priorities are listed in the annual SNPHS work plan reported to PHC.

Specific industries or other stakeholders may have additional priorities and can use this Reference Standard as the basis of developing surveillance protocols. However, for a surveillance protocol to be accepted as a NSP, then the industry must submit the draft protocol to SNPHS through the secretariat and the process from Part 3 is applied.

### Draft to endorsement

- 1 An author for the protocol may be nominated by SNPHS or can volunteer with SNPHS endorsement.
- 2 The National Surveillance Protocol working group (NSPWG) is tasked by SNPHS to contact the author to provide them with the Reference Standard, explain the data protocol development, and advise them of the timeframe for completion.
- 3 The author submits a draft National Surveillance Protocol to the NSPWG.

#### *Quality check*

- 4 The NSPWG nominates one or two evaluators from the working group to check the draft surveillance protocol is consistent with the endorsed reference standard. Inconsistent NSPs may be returned to the author for further drafting.

#### *Peer review*

- 5 NSPWG identifies and nominates two subject matter experts for the peer review process. The NSPWG provides the peer reviewers with the NSP draft and advises of the timeframe for review completion. Peer reviewers may include:
  1. An expert on the pest (such as biologists, diagnosticians or surveillance practitioners)
  2. A biosecurity or invasive pest expert (from a university, CSIRO or government department)

The peer reviewer/s:

- a. Return the surveillance protocol to NSPWG evaluators with comments for further work before resubmission, OR
  - b. Accepts the draft surveillance protocol as suitable.
- 6 **If a:** The NSPWG sends the reviewed protocol to the author who incorporates the suggested edits. The author keeps the NSPWG informed of the progress of the NSP. If the reviewer requested to see the NSP after comments were incorporated, return to step 5.  
**If b:** Proceed to final NSPWG review below.

- 7 Nominated working group evaluators complete a final review of the draft protocol.

*SNPHS final review*

- 8 NSPWG will send to all protocols accepted in the peer review process to SNPHS for final review and endorsement. The SNPHS Secretariat will send the protocol to the PHC secretariat.

*PHC endorsement and publication*

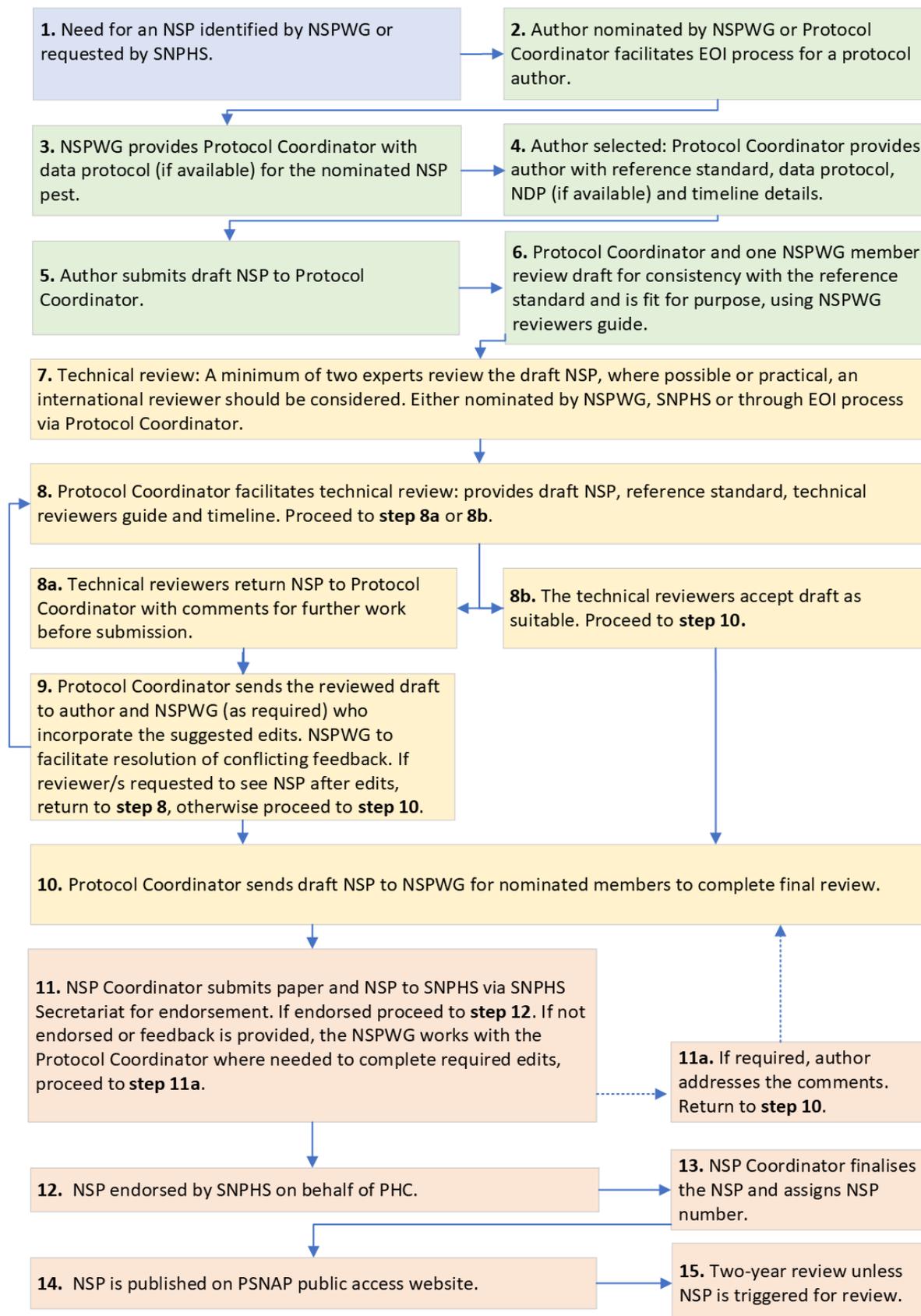
- 9 The PHC secretariat will send to PHC for endorsement. Once endorsed by PHC the surveillance protocol can be published.
- 10 The NSP will be published on the biosecurity portal website.

## **Review NSP**

All endorsed NSPs should be reviewed for currency every two years, or earlier if required. Particular mind should be paid to new information around knowledge gaps identified in the research section, changes to pest distribution or host lists and ensure contact information throughout the protocol is up to date.

SNPHS or the NSPWG will appoint nominated expert(s) to conduct the review.

- 8.1 If the nominated expert(s) recommend updates to the NSP, the review process will recommence with the appointment of an author and follow the same process outlined in sections 5-7 (see [Figure 1](#)).
- 8.2 Once the review process is complete, the NSP is updated with the review date, published and reviewed in another two years.



**Figure 1** - Draft to endorsement of a National Surveillance Protocol.



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**Appendix 1 Cover page**  
**Subcommittee on National Plant Health Surveillance**

**National Surveillance Protocol**  
**for**  
**Common name of pest/group (scientific name)**

Version number		
Status		
Endorsement date		
Next review date	<i>(once endorsed this should be set for a minimum of 2 years from publication)</i>	
Last reviewed		
Reviewers	<i>(first review date)</i>	<i>(second review date)</i>
Author/s		

## Appendix 2 Reference suggestions

The information in the protocol should be obtained from various reliable sources such as:

- Peer reviewed journals.
- National or International Diagnostic Protocols.
- Plant Health Australia.
- State and Territory agriculture resources.
- CABI Invasive Species Compendium.
- Invasive species council Australia.
- United States Department of Agriculture.
- European Food safety Authority.
- European and Mediterranean Plant Protection Organization.
- Bugwood Center for Invasive Species and Ecosystem Health – good for photos where Australian examples are not available.
- Local agricultural departments in countries that have experienced outbreaks are an excellent source of up-to-date surveillance information.

When including links to documents in-text, direct readers to the main page of the website to preserve link addresses as long as possible. Links should be tested for usability during the protocol review process.

When referencing documents that are unpublished or protected, use a footnote to direct the reader to obtain the document, for example:

<sup>1</sup> Available on request through the *Subcommittee on National Plant Health Surveillance*

### Use the Harvard reference style, which is used by Austral Entomology:

#### *Journal articles*

North RC & Shelton AM. 1996. Ecology of *Thysanoptera* within cabbage fields. *Environmental Entomology* **15**, 520–526.

#### *Books*

Eberhard WG. 1985. *Sexual Selection and Animal Genitalia*. Harvard University Press, Harvard.

#### *Chapters in books*

Bray RA. 1994. The *leucaena* psyllid. In: *Forage Tree Legumes in Tropical Agriculture* (eds RC Gutteridge & HM Shelton) pp. 283–291. CAB International, Oxford.

#### *Website*

Bureau of Meteorology. 2014. Southern Oscillation Index Archives – 1876 to present. Available from: <http://www.bom.gov.au/climate/current/soihtm1.shtml> [Accessed 5 March 2014]

#### *Website with abbreviation*

International Plant Protection Convention (IPPC). 2015. Diagnostic protocol for *Trogoderma granarium* Everts. Available from: <https://www.ippc.int/en/publications/dp-3-2012-trogoderma-granarium-everts/>.

Use (IPPC 2015) as the in-text reference and add 'IPPC International Plant Protection Convention' to the glossary table.

## Appendix 3 Formatting

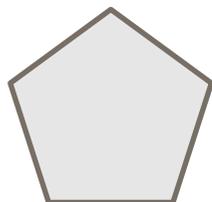
Name	Style
Heading 1	Arial 15, bold, 6pt before and after for spacing
Heading 2	Arial 13.5, bold, 6pt before and after for spacing
Heading 3	Arial 12.5, bold, 6pt before and after for spacing
Normal	Arial 10, 1.5 spacing
Table caption	Placed above the table, Arial 9, 6pt after caption for spacing formatting as per example below. Tables referred to in text should be in bold.
Figure caption	Placed below the figure, Arial 9, formatting as per example below – all figure captions must cite a source that is included in the reference list. Figures referred to in text should be in bold.
Header	Each page excluding the title page should have a header, left justified Arial 9, 'National surveillance protocol – Common name of pest'
Page number	Right justified, bottom of the page, beginning with '1' on the first page of the content (after the TOC) Arial 9.
Table of contents	Simple, 3 levels, show numbers, right align numbers, no tab leader
Link within document	For appendices and sections, create a bookmark or link – linking work should be underlined and not bold e.g. <u>Appendix one</u>  For images that are not with the text, create a bookmark and link to the figure reference in bold and underline to highlight the link e.g. <b><u>Figure 1</u></b>

### Table formatting

← In table design this is 'Plain table 2'. All font in Arial 9, heading row only in bold. Table spacing should 1.15. Do not allow rows to split across page and repeat header row for long tables.

Use the 'keep with next' function to keep headings and paragraphs or tables, figures and captions together.

**Table 1** – This is a table of plant pests.

**Figure 1** – This is a pentagon [Source: CABi 2021]



Images must always be credited or referenced with source information. Pay attention to licensing constraints for publication.

## Appendix 4 Glossary of terms

### Acronyms and abbreviations

IPPC	International Plant Protection Convention
ISPM	International Standard for Phytosanitary Measures
NMDS	National Minimum Dataset Specifications
NSP	National Surveillance Protocol
PHC	Plant Health Committee. A Standing Committee of the National Biosecurity Committee. PHC develops national health policy, capacity and capability in Australia
PPSR	Priority Pest Surveillance Requirements
SNPHS	Subcommittee on National Plant Health Surveillance. SNPHS is a subcommittee of PHC
SPHD	Subcommittee on Plant Health Diagnostics. SPHD is a subcommittee of PHC
DAWE	Department of Agriculture, Water and the Environment (Commonwealth)

### Glossary

Nominated Experts/ Peer Reviewers	Individual members of the Peer Review Panel appointed for technical assessment of a newly drafted Surveillance Protocol or Nominated Experts as appointed by SNPHS to conduct a review on an existing NSP.
Author	The person(s) that drafted or reviewed the NSP for consideration and agreement by SNPHS.
Nominated Evaluator	A nominated evaluator assists the author/s to check the Draft Surveillance Protocol style and content, prior to it being submitted to the Peer Review Panel, for it to be considered as a NSP.
International Standard for Phytosanitary Measures (ISPM)	An international standard adopted by the Conference of FAO, the Interim Commission on Phytosanitary Measures or the Commission on Phytosanitary Measures, established under the IPPC.
SNPHS Reference Standard	A PHC endorsed document approved by SNPHS stipulating the agreed principles, terms and conditions for the production of EPP related documents. Usually referred to as SNPHS RS No.23
Surveillance Design	Process of assessing the surveillance requirements to address a range of surveillance objectives in order to better mitigate the risks on identified pest pathways. Surveillance design may include a suite of documents that precedes (and includes) a National Surveillance Protocol, related specific surveillance plans and any related specific work instructions.
Surveillance Work Instruction/ Standard Operating Procedure	
Surveillance Prioritisation	Process of determining the pests that should be considered further for surveillance, based on the potential biosecurity benefits that surveillance can support.

Plant pest	Any species, strain or biotype of plant, animal or pathogenic agent injurious to plants or plant products [FAO, 1990; revised FAO, 1995; IPPC, 1997]
Host range	Species capable, under natural conditions, of sustaining a specific pest or other organism.
Vector	A carrier of an infectious agent.