**ESTABLISHMENT OF A WEED SURVEILLANCE AND RESPONSE PROTOCOL FOR NEW PEST PLANT INCURSIONS IN TASMANIA**

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**Abstract**  The development of the Tasmanian State weed strategy ‘Weedplan’ and recent incursions by potential pest plants has highlighted opportunities to increase the rate of early detection and the need to develop a clearly defined response protocol. New pest plant species recently (< 5 years) detected in Tasmania have included *Alternanthera philoxeroides*, *Amaranthus spinosus*, *Amaranthus albus*, *Cyperus rotundus*, *Kochia scoparia*, *Myrsiphyllum asparagoides*, *Cuscuta suaveolens*, *Adonis microcarpa* and *Teucrium scorodonia*. The past approach to the detection of recently introduced species has been ad hoc and informal with only one of the above species *A. philoxeroides*, having been detected through a formalised surveillance program. The establishment of a surveillance network and the development of a response protocol is discussed.

**INTRODUCTION**

The challenge to prevent and detect the establishment of new plant species is complex. Despite having quarantine barriers in place the unwanted arrival of pest plants will likely remain an inherent eventuality, as evidenced by the findings of Rozefelds et al. (1999). Rozefelds study revealed 159 new plant taxa have naturalised in Tasmania since 1970. This is to some degree a reflection of the extensive range of candidate species, and the difficulty in predicting their potential impact, invasiveness and distribution. As only 58 plant species (*Noxious Weeds Act* 1964) and 99 seed species (*Seeds Act* 1985) are prohibited entry to Tasmania, a large proportion of new introductions will be ‘legal’.

From the moment a new species becomes established, early detection and evaluation of its potential impact becomes paramount. The earlier an incursion is detected the greater the chance of eradication or containment.

The approach to the detection of new plant incursions in Tasmania has in the recent past been ad hoc and informal, relying to a large extent on chance detection by botanists or other people well versed in plant identification.


In an endeavour to effectively address surveillance for, and respond to new plant incursions, the Department of Primary Industries, Water and Environment (DPIWE) and Tasmanian Weed Management Committee have initiated the development of the Tasmanian Weed Alert Network.

This network is comprised of surveillance and response protocol components. The primary goal of this system is to minimise the time between establishment and detection, and ensure timely, efficient, consistent and comprehensive management of new infestations.

The development of a Weed Alert Network is supported by and meets objectives specified in ‘WeedPlan’, the Tasmanian State weed strategy (DPIF, 1996), and the National Weeds Strategy (CoA, 1999).

**SURVEILLANCE NETWORK**

The success of any effort to detect a new incursion is linked to: 1) The number of people aware of and actively looking for an alien plant species. 2) The level of training and information they have received in the identification of new incursions.
Figure 1. Weed Alert Network surveillance and response protocol
The weed alert network recognises and takes advantage of the botanical skills and resources already present in the community, within which there are already many people skilled in plant identification. The objective of the network is to provide 100 people within Tasmania with clear and simple information necessary for the tentative identification of new pest plant incursions. The network is also intended to create a culture within itself that engenders a sense of responsibility to continually watch for and report the presence of any plants that appear ‘suspicious’.

**Target Plants** Plants targeted for inclusion into the Weed Alert Network must satisfy one of three categories. Categories are listed in order of priority to aid the allocation of limited resources.

- Species recently detected (<5 years) and formally assessed as a perceived threat to the economy, environment or public health. Must have a limited distribution and be considered eradicable.
- Species present longer than 5 years and formally assessed as a perceived threat to the economy, environment or public health. Must have a limited distribution and be considered eradicable.
- Species formally assessed as a perceived threat to the economy, environment or public health. Not present in Tasmania but considered as high potential for entry.

**Participants** Nominees are selected on the basis of demonstrated experience in plant identification and their likelihood of exposure to new pest plant incursions in the field. This includes skilled members of the public often belonging to community groups, government officers involved in land and water management, industry personnel such as field officers, Parks and Wildlife Rangers and others. The network currently consists of 40 members with a target participation of 100 persons.

**Information resources** Network participants are provided with an A5 sized folder for storing Weed Alert Bulletins. Each bulletin contains simple, concise information on a target weed’s identification. Descriptions are accompanied by two full colour pictures and line drawings if available. Weed Alerts are double sided and printed on A5 water proofed paper.

As new incursions occur network members are provided with a Weed Alert bulletin and an opportunity to attend briefings on the significance and identification of the new species. Preliminary colour bulletins are released via e-mail where possible and published on the Weed Alert Web page to minimise print production delays.

**NEW INCURSION RESPONSE PROTOCOL**

Prior to 1998 no clear protocol had been available to manage the response to new pest plant incursions in Tasmania. Consequently a response protocol has been developed (Figure 1) in conjunction with the surveillance network. This protocol is described as four phases beginning with the discovery of a new plant species and culminating with the implementation of a management program. Each of the response phases (II-IV) is allocated an optimal time for completion of forty eight hours.

**Phase I (Discovery):** Suspect plants found by a Weed Alert Network member or handed to them by a member of the public are forwarded to either a Regional Weed Management Officer (DPIWE) or direct to the Tasmanian Herbarium for identification. In all cases formal confirmation of a specimen’s identity must be made by the Tasmanian Herbarium before further progression of the response protocol.

**Phase II (0-48 hours):** Upon confirmation as a new incursion, the Senior Weed Management Officer (DPIWE) and the Weed Incursion Response Group (WIRG) are notified and meet within the first 48 hour period. A preliminary weed risk assessment and investigation into the distribution and source of the incursion is initiated at this time. The national significance of a new incursion is determined through contact with Australian Weeds Committee representatives and herbaria from each State. These contacts may in future be substituted for linkages into similar surveillance and response networks from other States and Territories.

**Phase III (49-96 hours):** WIRG notifies the Minister and Executive of the Department of Primary Industries, Water and Environment. Where a new incursion has been determined to have national significance, the Office of the Chief Plant Protection Officer (OCPPPO) is notified. Media and industry (if applicable) briefings and an interim weed alert publication are also developed during this period.

**Phase IV (97-144 hours):** During this phase a draft management plan is developed in consultation with affected parties and implementation initiated. Weed
Alert bulletins are distributed and briefings conducted. Each management plan includes a timetable of actions and identifies responsible personnel for each action.

Where new incursions are of National significance, management planning and implementation, media and industry briefings are conducted under the auspices of and in cooperation with the OCPPO and the Standing Committee for Agricultural Resource Management (SCARM).

Independent to Phase IV time constraints the OCPPO conducts a national telephone conference and prepares a briefing for (SCARM). SCARM is subsequently notified out of session.

CONCLUSION

Weed surveillance and response protocols for new pest plant incursions in Tasmania are a formal recognition of the importance of preventing new weed problems from occurring. The Weed Alert Network, a direct result of a strategic, State wide approach to weed management, is intended to enhance Tasmania’s preemptive approach to weed incursions and minimise the emergence of future pest plant infestations.

Early detection and intervention will maximise the effectiveness of managing new pest plant infestations while minimising the resources required for their future management. Anticipated savings will allow for allocation of a greater proportion of available resources towards other weed management activities.

Early detection and intervention will also limit the potential damage to the environment, economy, public health and other human interests that would otherwise be inflicted by future pest plant invasions.

One weed, is one weed too many.

REFERENCES

