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Legislation and its Administration in the Approval of Agents for Biological Control in Australia

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Researchers working in biological control often become frustrated with what they perceive to be bureaucratic delays in progressing their research through the time it takes to obtain permission to import, or release, biological agents into the environment. However, philosophically few researchers would object and would frequently strongly support, the need for Governments to maintain strict controls on the movement of exotic organisms into new environments. This concern about the invasion of an environment by a foreign organism is not one just shared by scientists but, in recent years, one more acutely perceived by the general public. Inevitably this trend, accompanied with Government's desire to consult widely on significant issues has resulted in more complex administrative arrangements to reach decisions on the import or release of biological control agents. An unfortunate result of wider consultation is that often widely differing views emerge which are neither simple and in some cases, impossible to resolve by legislative or technical arguments. Some recent examples of this dilemma are considered in order to illustrate the main issues and perhaps point to the way we could proceed in the future.

Introduction

Since the Second World War, in Australia the technical review procedures, legislation and administrative requirements for the importation and release of biological control agents have undergone a progression of change, with the greatest change occurring over the past decade.

Prior to the 1980s, import applications were handled only by the then Commonwealth Department of Health. This Department, within its responsibilities in administering the *Quarantine Act 1908* was solely responsible for approving the importation and release into the field of all biological control agents imported into Australia. The technical evaluation of these applications was undertaken within the Quarantine Division of the Department, in consultation with a Review Group consisting of relevant experts from the Commonwealth Scientific and Industrial Research Organization (CSIRO) and a State Department of Agriculture.

The 1980s saw relatively dramatic changes to this relatively simple approach.

Currently, the importation and release from quarantine of biological control agents is regulated by the *Quarantine Act 1908* and the *Wildlife Protection (Regulation of Exports and Imports) Act 1982.*

The Australian Quarantine and Inspection Service (AQIS) of the Department of Primary Industries and Energy administers the Quarantine Act and the Australian National Parks and Wildlife Service (ANPWS) administers the *Wildlife Protection (Regulation of Exports and Imports) Act.*

A set of procedures, under a joint protocol developed and agreed to by State agricultural and Conservation authorities, together with the CSIRO, was adopted in November 1987 and is administered by AQIS.

Under these procedures a research organization wishing to import a biological control agent makes a single application to AQIS. In turn, AQIS registers the application,

advises ANPWS and circulates the application to the respective nominated officer in all State agricultural and conservation authorities, together with CSIRO.

The States provide individual responses to AQIS, following internal consultation, by a date specified by AQIS. These responses are copied and conveyed to ANPWS for information. Issues raised in responses are taken up and resolved between the applicant and respondent; usually by means of an interim report to the applicants by AQIS.

AQIS and ANPWS, on resolution of outstanding issues with respondents, draw up respective permits to import the potential biological control agent into an approved quarantine facility. Whilst in quarantine, detailed testing is carried out to verify host-specificity of the agent and to ensure the agent is free from hyperparasites and disease.

On completion of host-specificity testing, a further application is submitted to AQIS and ANPWS. This application, for release of the agent from quarantine is also registered and similarly referred to co-operating authorities for response, resolution of issues and consideration in consultation prior to release from quarantine. Input from senior scientists in AQIS is also sought to ensure continuity and to alleviate possible risks.

At regular intervals, usually on a monthly basis, more detailed discussions are held between AQIS and ANPWS to review outstanding applications and issues yet to be resolved. These discussions have proved most effective in the administration of the joint protocol. A flow chart and description of the above procedure (Appendix 1) and the information sought on import applications (Appendix 2) are attached.

Another major change which occurred during the 1980s had its origin through a program developed by CSIRO in the 1970s for the biological control of the weed Salvation Jane/Paterson's curse (*Echium* spp.; Boraginaceae). Following the first releases of control agents, action was taken by a group of apiarists and graziers to halt further release. A temporary injunction was granted by the South Australian Supreme Court in 1980, which was later replaced by a permanent injunction. There was no legal mechanism for resolving this conflict.

This action generated a significant controversy in both Government and rural sectors. During 1983 the Department of Primary Industry began developing appropriate biological control legislation (the *Biological Control Act*) to enable consideration of applications and release of control agents where there was a public conflict. The content of the legislation was extensively discussed before it was enacted.

The purpose of the legislation is to clarify the legal status of biological control in Australia by providing an equitable and public process for establishing whether any particular proposal is in the public interest. It provides immunity for legal action intended to prevent the release of biological control agents for control of target organisms authorized under the *Act*. This differs from the previous situation where small interest groups could block a program by common law.

Following extensive consultation on issues such as an individuals' common law rights, States' rights, and the need for compensation or adjustment assistance, complementary State/Commonwealth legislation was developed and enacted.

The *Biological Control Act* precludes payment of compensation for loss of income derived from a target organism declared under the legislation unless non-target species were affected and negligence could be proved in the review.

The Commonwealth *Act* was given Royal Assent in October 1984 and since then all States and the Northern Territory have introduced complementary legislation. The Commonwealth *Act* applies only to the Australian Capital Territory and the Australian Territories of Cocos (Keeling) Islands, Christmas Island, Coral Sea Islands and the Ashmore and Cartier Islands.

In summary, these changes can now involve 3 pieces of legislation (the *Quarantine Act 1908*, the *Wildlife Protection [Regulation of Exports and Import] Act 1982*, and the *Biological Control Act 1984*), the administrative requirements of which involve a consultative process requiring liaison with some 21 separate organisations on

all applications to import biological control agents and release them from quarantine. If field release of the agent is likely to be opposed by an individual or group, then the review and administrative requirements of the *Biological Control Act* are protracted and onerous.

Discussion

Researchers may understandably see these changes as nothing more than rampant bureaucracy, but this is a simplistic view. To fully understand the changes it is necessary to examine changes that have occurred to the Australian society during the period. One of the most fundamental of these has been a greater public awareness and concern about conservation and the environment.

Parallel and related to this has been the development and implementation of Government policy to reflect these society views. The period has seen an increasing demand by the society in general and the scientific community in particular to be informed of and consulted on environmental issues and this process has included biological control. Concurrent with this has been the Government's desire to fully consult with interested parties and provide mechanisms to resolve conflicting views. In part, the development of wildlife and biological control legislation is indicative of these trends.

The end result of this is an expanded and relatively complex administrative structure to meet these demands. The approach now requires consultation with some 21 technical/scientific groups, universities, CSIRO, and relevant State Departments of Agriculture, Lands and the Environment. This number is likely to increase with the establishment in some States of Environmental Protection Agencies.

With the number of applications for importation or release running at about 60 annually, the administrative load of distributing applications and consolidating, reviewing and resolving conflicts between respondents is substantial. In a public service environment of contracting resources, a workable solution to reducing the delays being experienced by researchers for approvals to import or release biological control agents would be to reduce the size of the consultative network. However, if this is to happen there will need to be a shift in attitude among the groups involved from a "need to comment" to a "need to know" and a reflection of this in legislation. If this occurred it should be possible to reduce consultation to a comparatively small group with membership drawn from the areas mentioned above. The approach would also reduce the duplication of effort which characterizes the current review process and assist in minimizing the cost of permits if the concept of "user pays" is fully applied to this area of Government activity.

A consequence of wide consultation on issues is also the emergence of divergent and sometimes conflicting views which frequently reflect the interests of the individual or group. Conflict resolution and a process to reach decisions on controversial applications is likely to become more necessary in the future.

The current joint permit system has procedures for resolution of respondents' concerns either through an exchange of view by mail or, if required, a meeting between the applicant, reviewers and other relevant experts. However, if this becomes necessary it can add several months to the time taken to process an applications.

Fortunately, most of the recent issues that have been raised in reviewing applications have been resolved by this process. However, there are examples such as Paterson's curse and blackberry (*Rubus fruticosus* L. aggregate; Rosaceae) which have involved wider community debate and taken years to resolve. Both of these weeds have been considered under the *Biological Control Act*, however, blackberry was the only one considered after the legislation was enacted. Unfortunately, the legislation failed to resolve the issue because agreement could not be reached between the States at the Australian Agricultural Council (AAC). A unanimous decision by AAC is required to declare a target or agent under the legislation. Subsequently approval was given under the joint permit system to release the strains of rust imported for control of blackberry and field release by the researchers followed.

The *Biological Control Act* is also unlikely to provide a solution in situations of conflict where a biological control agent threatened an

environmental value such as infestation of an endangered plant species. The establishment of public benefit which is required under the legislation would be difficult to demonstrate and probably remain controversial and a decision made by AAC may not be accepted by environment and conservation groups. To assist in resolving these situations a proposal has been made to convene a group comprising appropriate members of the Standing Committee on Agriculture and Standing Committee on Conservation to examine the issue and make recommendations to both AAC and the Australian and New Zealand Environment and Conservation Council; to date this approach has not been necessary.

In planning biological control projects researchers need to program for the delays that the current clearance arrangements require and anticipate that considerable delays are likely to occur in receiving approvals where the agent is perceived to threaten others values or livelihood. In less controversial situations applications are more likely to pass through the review process where well presented scientific evidence accompanies the application. The guidelines which appear as Appendix 2 are a useful guide to the information that is required.

Acknowledgments

The efforts of Ms Gay Stevenson and Mr. Warwick Wright in assisting with the development of the joint permit system and their endeavors to expedite clearance of applications through the process are gratefully acknowledged.

Appendix 1. Procedure for importation and initial release of biological control agents in Australia.

The importation and release from quarantine of biological control agents is regulated by the *Quarantine Act 1908* and the *Wildlife Protection (Regulation of Exports and Imports) Act 1982*.

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On completion of host-specificity testing, a further application is submitted to AQIS and ANPWS. This application, for release of the agent from quarantine is also registered and similarly referred to co-operating authorities for response, resolution of issues and consideration in consultation prior to release from quarantine. Input from senior scientists in AQIS is also sought to ensure continuity and to alleviate possible risks.

At regular intervals, usually on a monthly basis, more detailed discussions are held between AQIS and ANPWS to review outstanding applications and issues yet to be resolved. These discussions have proved most effective in the administration of the joint protocol.

A flow chart (Fig. 1) depicting the above operations is attached.

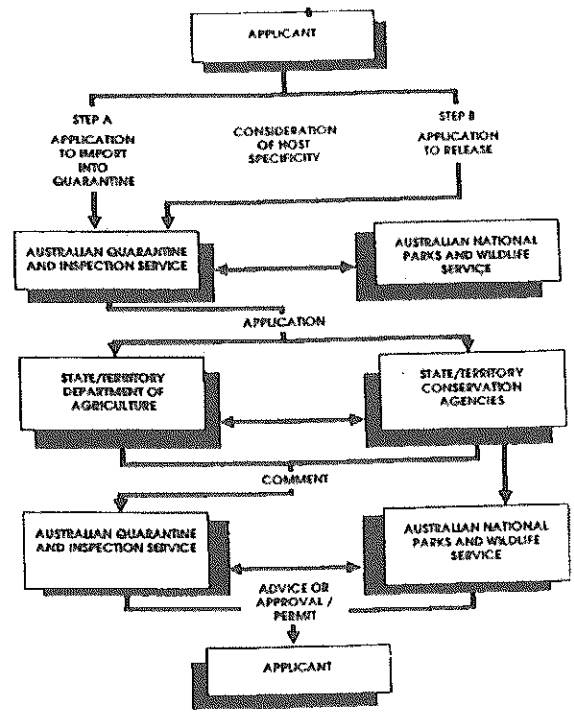

Figure 1. Procedure for obtaining approval to import and release biological control agents in Australia.

Appendix 2. Guidelines on the information to be provided with an application to import or release biological control agents in Australia.[1]

TARGETS

1.) Scientific name (order, family, genus, species and author); common name (if any).

2.) Native range and, if determinable, probable center of origin.

3.) Distribution in Australia, including a map, if available, and in any other country where it is a pest or a normal part of the fauna or flora.

4.) Relatives native to Australia. (State family names of close relatives if number is large.)

5.) Pest status.

a.) Host organism(s) attacked by it (as appropriate)
b.) Nature of damage caused.
c.) Extent of losses caused (average and extremes).
d.) Estimated value of production loss.

6.) Other control methods available (if any)

a.) Type of control (chemical, physical, management).
b.) Effectiveness.
c.) Costs.
d.) Any undesirable side effects.

AGENTS

1.) Name (order, family, genus, species and author).

2.) Brief biology of the agent.

3.) Native range and, if determinable, probable center of origin.

4.) Related species and a summary of their host range.

5.) Proposed source(s) of agent.

6.) Mode of action against target organism and extent of action.

7.) Potential for control of target.

8.) Non-target organisms at risk from agent (include those closely related biologically and those ecologically similar).

9.) Possible interactions with existing biological control programs (of same or related targets and other targets).

10.) Host-specificity testing program to be proposed to, or which has been accepted by, quarantine and conservation authorities (include list of host/test organisms, methods of testing).

11.) Progress of testing program and results of testing program and conclusions.

THE FOLLOWING INFORMATION MAY BE USEFUL

12.) When and where initial releases are proposed.

13.) Methods to be used for evaluating establishment, dispersal and effect on target, and for what period of time.

14.) Methods to be used for evaluating establishment, dispersal and effect on other species in the vicinity of the target, and for what period of time.

15.) Collaborative research with other departments.

16.) Assistance to be sought from other departments; e.g., in making releases, mass-rearing, secondary distribution, monitoring of spread and effectiveness.

17.) Assistance to be given to other departments; e.g., in making releases in their areas, provision of bulk stocks for release, provision of starter cultures.

[1]**NOTE:** The above list is only a guide. It is recognized that, in some cases, more information will be required. For some targets and agents not all points will need to be covered. Where literature references are cited, a copy of each reference should accompany the application to assist evaluation.