



## Rapport with Research

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### Model Weed Law Provisions

#### UPDATING NOXIOUS WEED LAWS TO INCREASE EFFECTIVE MANAGEMENT OF PLANT INVASIONS



Expansive and well-established spotted knapweed infestation. Photo: NE Rees, USDA ARS, Bugwood.org

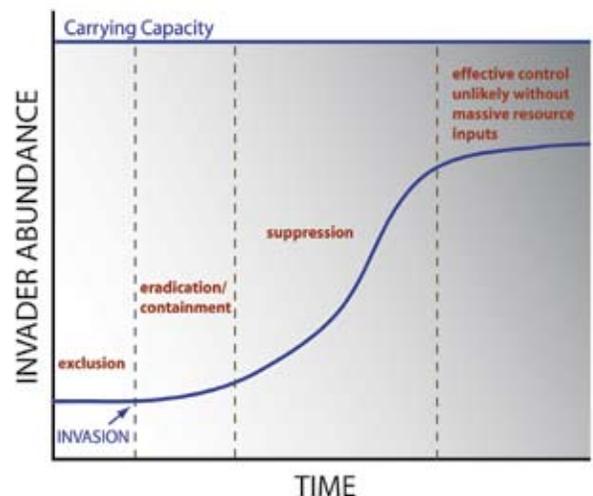
Decisions on designating species for a state or provincial weed list can have far-reaching implications for effective and efficient noxious weed management. Some states already have or are moving toward “tiered” lists that group weed species according to management priority, infestation range, or other parameters. However, according to the North American Weed Management Association, most state and provincial weed laws address weeds only after they become well established.

Updating noxious weed laws by developing weed lists tiered to the plant population invasion stage can guide allocation of scarce public resources to the management of prioritized noxious weeds, including those species that require a rapid response. Incorporating additional provisions into state weeds laws can strengthen efforts in managing new invaders.

#### Tiering Weed Lists According to Stages in the Invasion Process

Different management strategies can be applied to an invasive plant during the sequential stages of its invasion and spread (Chippendale 1991; Hobbs and Humphries 1995). As the diagram shows, before invasion takes place (stage 1), the appropriate strategy is *exclusion*. Once invasion occurs (stage 2), the immediate *eradication* or *containment* of the weed species is crucial. As the weed population increases dramatically during the third stage of the invasion process, only *suppression* or *control* are possible. In the fourth and final stage, as the weed approaches the maximum carrying capacity in its new range, effective control is unlikely without massive resource inputs. A management program for an individual weed species is most likely to be successful and cost effective if intervention is directed at the first two stages.

Noxious weed lists that are tiered by invasion stage can be a critical policy tool to focus management efforts and limited public resources on the early stages of invasion. Most states and provinces list a weed as noxious only in the late stage of the invasion process when it is a large, landscape-scale problem.



Strategies for managing invasive plants that can be applied during the four stages of the invasion process. Adapted from Chippendale 1991; Hobbs and Humphries 1995.

#### ABOUT THE SCIENTIST

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Relative to costs, the benefits of exclusion, eradication, or containment may be little or none to the individual land owner dealing with a new invader, but the costs avoided by preventing introduction, spread, and subsequent landscape infestation have a substantial public benefit. Currently, only about ten of the 60 state and provincial governments in North America have noxious weed lists tiered to invasion stage.

## Proposed Weed Law Provisions

Proposed model weed law provisions based on invasion stage were developed after reviewing all North American state and provincial noxious weed statutes and rules and other model weed/invasive species laws, and conducting semi-structured interviews of 13 western state weed coordinators. This review produced 11 model provisions, summarized below.

### 1. Multi-Category Tiered List

A comprehensive listing system would include eight categories that reflect different management objectives for weeds according to their distribution in the state, relative abundance, and impacts, and the feasibility of control at different spatial scales. These categories would provide official guidelines for prioritizing and implementing noxious weed control activities and allocating state funds for weed management projects.

| CATEGORY NAME           | GENERAL PURPOSE  |
|-------------------------|--|
| Watch-listed            | Collect information on potentially invasive species        |
| Exclusion by quarantine | Prevent introduction from other states                     |
| Category 1              | Eradicate/contain new invaders already in state            |
| Category 2              | Regionally abundant weeds                                  |
| Category 2A             | Eradicate or contain where less abundant                   |
| Category 2B             | Suppress in region(s) where abundant                       |
| Category 3              | Suppress weeds abundant statewide                          |
| Quarantined beneficial  | Contain established beneficial plants with invasive traits |
| Emergency               | Allow rapid response until fully evaluated                 |
| County-listed           | Weeds of local concern not listed by state                 |

### 2. State Rapid Response Funding Reserve

Provide funding for small-acreage targets on private and public lands.

### 3. Quarantine Provisions for Emergency-Listed Weeds

To prevent the sale and intentional or inadvertent transport of weeds listed in the emergency category.

### 4. Permanent Noxious Listing by Rulemaking

Enable listing by departmental rulemaking rather than by legislatively enacted statutes.

### 5. Noxious Weed Advisory Panel

Subcommittees could advise the state on permanent listings to facilitate appropriate listings and garner wide concurrence from stakeholders.

### 6. Compensation for Technical/Scientific Specialists

Ensures timely and adequate development of findings.

### 7. Open Petition for Listing and Technical Findings

Enables anyone to petition the state to list new weeds and ensures that the petitioner will receive a written technical finding for the decision.

### 8. Annual and Tri-annual Review of List

Mandates the state to review specific listing categories either annually or every third year.

### 9. Explicit Authority to Downgrade Listing Category or Completely Delist

Allows the lead state department to change listing.

### 10. Warrant for Site Inspection

Includes a provision for issuing a limited warrant to facilitate more rapid access for inspection of private property suspected to be infested with a new invader.

### 11. Mandated Review Every Three Years of State and County Management Plans

Mandates a review of plans for Category 1 and Category 2A weeds by Noxious Weed Advisory Panel advisory subcommittees.

## Status of Model Weed Law Provisions

The model weed law provisions can provide a starting point for discussion on modernizing state or provincial weeds laws to facilitate more effective management of plant invasions. 

## References

- Chippendale, J. F. 1991. Potential returns to research on rubber vine (*Cryptostegia grandiflora*). M.S. Thesis University of Queensland, Brisbane.
- Hobbs, Richard J.; Humphries, Stella E. 1995. An integrated approach to the ecology and management of plant invasions. *Conservation Biology*. 9(4): 761-770.

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