

APPENDIX B

Uncertainties and Challenges: Vegetation Management in Railroad Rights-of-Way (ROWs)

During the course of a recent intensive review, the Vermont Pesticide Advisory Council (VPAC) identified a multitude of uncertainties and challenges associated with vegetation management within railroad ROWs. The list below exemplifies some of the complex factors identified.

- The condition of the rail bed significantly impacts the efficacy of any herbicides applied and viability of any non-chemical means of control. Condition of the infrastructure must be considered in tandem with vegetation management.
- An exhaustive literature review indicates that mechanical control is not viable as a sole means of vegetation control due to many factors.
- Mechanical control primarily knocks down the above ground portion of vegetation. Organic material (such as roots) may remain and accumulate below ground surface in the ballast.
- Use of mechanical methods could lead to an increased need for control (e.g., actually stimulate the growth of certain species) and may not guarantee operational reliability.
- Lack of effective vegetation management can lead to degradation of ballast, a decline in operational reliability and present significant safety concerns including increased potential for derailment, creation of fire hazards, increased animal habitat and result in violation of Federal Railroad Administration requirements.
- Federal law trumps all and rail lines must be maintained to meet federal requirements. Use of mechanical means may not be sufficient to meet the letter of the law.
- There may be public perception issues/pre-establish biases regarding use of some newer chemicals even though they may have improved human toxicity/environmental fate profiles, e.g., aminopyralid. Provision of sound technically correct information may not be sufficient to alter public perception.
- Chemical specific properties must be taken into consideration when designing an integrated vegetation management plan. A large challenge is to identify herbicides with shorter residual times, physical properties that make them less likely to be mobile in soil and water and that provide the least hazard to both human health and the environment.
- Despite permit conditions, recommendations and regulations designed to prevent/minimize the potential for human exposure, personal behaviors such as walking on newly treated tracks or placement of play structures within ROWs could undermine these efforts. Development of residences and business just outside the ROW cannot be prevented.
- The currently employed definition of "*sensitive area*" is geared towards environmental medium/ecological receptors, not humans. It may not be possible to establish a one size fits all definition of areas with high potential for public exposure. Criteria that may be useful in the identification of such areas should be determined.
- Methods of notification are antiquated. Inclusion of newer technology could allow for individual empowerment. However, what methods the public prefers varies and we are limited to the technology available to us.