Is a Regional Interagency, Multi-Year, Multi-System Post-Release Impact Assessment Program Possible?

J. Milan¹, A. Weed², M. Schwarzländer², P. Brusven³ and C. Randall⁴

¹USDI Bureau of Land Management, Boise, ID USA jmilan@blm.gov
²University of Idaho, Moscow, ID USA Aaron.S.Weed@Dartmouth.edu markschw@uidaho.edu
³Nez Perce Tribe Biocontrol Center, Lapwai, ID USA
⁴USDA Forest Service, Forest Health Protection, Coeur d’Alene, ID USA

Abstract

The demand for a comprehensive monitoring solution to assess the impact of biological control on a system-wide, regional level has been a forgotten focal point of many biological control programs throughout the world. Too often, well-intentioned programs see monitoring components left unfunded or listed as too low of a priority, resulting in their dismissal given typical workloads. To combat this, a group of biological control practitioners from Idaho, USA developed a regional, multi-system, interagency post-release assessment program – the Standard Impact Monitoring Protocol (SIMP). SIMP was developed to be citizen science friendly and statistically sound with regard to data analysis. SIMP is used to document the change in vegetation cover, target weed density and biological control agent abundance over time. This provides land managers with a tool to assess the relative impact of the biological control agent and the corresponding change in vegetation post-biological control agent release. To help facilitate the program, two page documents outlining the process have been drafted for each system with a corresponding data sheet. The data are collected with Global Positioning System (GPS) devices or with hard copy data sheets which are compiled at the end of each field season and entered into a Geographical Information System (GIS) database which can then be exported for analysis. Included in this presentation is an analysis of five years of SIMP data for Dalmatian toadflax, Linaria dalmatica (L.) Mill., and Mecinus janthinus Germar as a case study. The goals of SIMP are to establish a long-term data set, standardize the data collection process, provide baseline data for new agents, and assess what environmental factors contribute to the success or failure of a biological control agent utilizing a vast data set spanning the range of each target weed’s infestation.