

24 October 2005

Kristen Boyle
BLM Butte Field Office
106 North Parkmont, PO Box 3388
Butte, MT 59702

Dear Kristen,

Attached please find an outline detail of activities on the Boulder Hills and Elkhorn Dalmatian toadflax study sites. I hope it will serve as an annual report. I find the Boulder Hills data analysis interesting and helpful for developing integrated management of this weed. On this site, where toadflax was present throughout the area but sparse, our analysis was not able to detect a significant effect on Dalmatian toadflax of picloram, metsulfuron, or their combination. However, the herbicides did significantly reduce the cover of other forb species. The fundamental principle of IPM would suggest that pesticide management of this site is not appropriate because the population of Dalmatian toadflax has not reached an economic (or ecological) threshold, and the pesticide has the potential to do more harm than good. Alternative control methods such as biological control or grazing, should be applied to suppress the toadflax population and prevent it from reaching damaging thresholds. Pesticide application would be more appropriate on the high-density areas in the Boulder Hills that are associated with disturbance (mining).

Our data suggest that the biocontrol insect *Mecinus janthinus* is establishing on the Boulder Hills site but no impacts have been detected. The preliminary evidence suggests that the insect did not establish well in the Elkhorns. Additional insects were released at both sites in 2005.

Thank you for your support in 2005. The BLM funds were used not only to support the research, but also to help gain support from the Noxious Weed Trust Fund. I will apply for continued funding from the Trust Fund in 2006 and again use the BLM money as matching support.

In the past I have presented research results to the staff at the Butte Field Office. I am pleased to do the same for this project. Thank you again for your support.

Sincerely,

James S. Jacobs
Research Assistant Professor