

Final Reports on CIPM Projects

Project Title: Identifying the Factors That Determine the Invasion of a Weed Into Native Plant Communities

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The invasion of yellow toadflax (*Linaria vulgaris*) into native plant communities in the Hebgen Lake area provides an excellent opportunity to study the factors that have allowed invasion of this weed. Yellow toadflax presents a major challenge for the Forest Service because it seems to invade plant communities without any obvious human disturbance. We carefully mapped three existing metapopulations (patches) of yellow toadflax at two different sites. We measured weed and native plant frequency and abundance and quantified the intensity and extent of natural disturbance in and adjacent to the invaded areas. We will continue to quantify the spatial and temporal dynamics of these invaded communities by repeating the measurements each year in the exact same place in a permanently established grid. After, one year of observations, we found that the patch edges were very distinct at site one, but not at the other site, indicating that spread of the patches at site one may be restricted to vegetative reproduction which would coincide with the heavy infestation of seed feeding weevils found at site one. These preliminary results and the instillation of the experiment will be used to submit a grant proposal to the NSF population biology program in June 2003.