

## **Rush Skeletonweed Research**

### **SURVEY OF RUSH SKELETONWEED (*CHONDRILLA JUNCEA* L.) ON THE SNAKE RIVER PLAIN**

Rush skeletonweed, an herbaceous Eurasian composite, was first recorded in southern Idaho about 1963. From the first record near Banks and the South Fork of the Payette River, it appeared to radiate rapidly, particularly to the south and east. It is now widespread across southwestern Idaho and often produces dense stands of wiry, latex-filled plants that compete with native plant species for water and nutrients. Initial colonization sites were forest openings and higher elevation grasslands and shrublands, and local managers doubted that invasions would occur widely on lower elevation sites of the Snake River Plain. But isolated stands of rush skeletonweed are now found in sagebrush steppe communities, abandoned croplands, and disturbed sites. These stands are concentrated in the western half of the plain. In this portion of our research, we are conducting field surveys to document biotic and abiotic parameters of some representative stands. Additionally, we hope to provide a regionwide GIS assessment of sites that possess similar environmental traits, and appear to be suitable habitat for future rush skeletonweed invasions.

### **RUSH SKELETONWEED DEMOGRAPHY FOLLOWING WILDFIRE ON IDAHO'S SNAKE RIVER PLAIN**

Rush skeletonweed was first reported in southwestern Idaho about 1963 and has since spread widely across foothill rangelands of the region. This herbaceous perennial is native to Eurasia and northern Africa, and is a noxious weed in several western states. Some reports note possible increases of rush skeletonweed after fire; others state that the invader will not persist on very dry sites. We are investigating rush skeletonweed establishment following wildfire on Idaho's arid Snake River Plain by documenting seed traits, origin of new plants (seed vs. rhizome), and demographics for 10 rush skeletonweed stands that straddled the edges of four fires that burned in summer 2003.

### **SEED AND SEEDLING ECOLOGY OF RUSH SKELETONWEED FOLLOWING WILDFIRE ON IDAHO'S SNAKE RIVER PLAIN**

Rush skeletonweed is a perennial composite native to Eurasia and northern Africa and a noxious weed in the western United States and Canada. First reported in southwestern Idaho about 1963, it spread widely across shrublands, non-native grasslands, and abandoned croplands of the arid Snake River Plain, particularly after wildfire. Its wind-borne seeds (achenes) are produced in summer and fall and are reported to emerge with fall moisture. These seeds are often targeted for control, but their actual recruitment role compared to root sprouts has not been quantified in North America. We are assessing this role on 11 burned/unburned plot pairs in rush skeletonweed stands.

### **RUSH SKELETONWEED SEED GERMINATION RESPONSES**

We examined germination responses of rush skeletonweed seeds that had been hand-collected from three sites on the Snake River Plain near Boise, Idaho. In each laboratory trial, replicates of 50 seeds were tested on saturated blotters in plastic germination boxes and incubated in germination chambers at constant temperature with light/dark for 12/12 hr. In tests from 6 to 34°C, germination averaged >50% of all seeds at each temperature. The shortest time to 50% germination of viable seeds occurred at 22°C. Based on tetrazolium tests, no seeds were dormant at any temperature. Germinability by harvest date was <5% of all seeds for mid-Jul 03 harvest, increasing gradually to 78% in mid-Sep 03, then declining. Total germination varied for each of the three harvest sites: 42, 50 and 74%.