ALDO LEOPOLD WILDERNESS RESEARCH INSTITUTE

Research Update:
What We're Doing and Why

Providing Scientific Leadership to Sustain Wilderness

How Does Biological Control Affect Post-Fire Spotted Knapweed Invasions?

Research need…

Many land managers wish to restore historical fire regimes through prescribed burning or wildland fire use. The use of fire, however, may inadvertently facilitate the spread of exotic plants such as spotted knapweed. To minimize post-fire spotted knapweed invasions, managers may use biological control agents. The extensive fires of 2000 have provided an opportunity to assess:

- how factors such as fire severity, pre-fire weed density, and habitat type influence post-fire spotted knapweed invasions.
- how biological control agents affect these interactions.

When: **2001-2006**
Where: **Selway-Bitterroot Wilderness, MT**

Spotted knapweed produces a chemical herbicide that is toxic to native plants.

Preliminary results…

- Charcoal created by fire may bind this herbicide.
- Biological control agents, however, cause knapweed to dramatically increase production of this herbicide.
- Thus, other post-fire control methods may be more appropriate for spotted knapweed.

Expected outcomes…

- Improved ability to predict the locations of post-fire weed invasions.
- Increased knowledge on the effectiveness of post-fire weed-control techniques.

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