2008

**GOAT CREEK KNAPWEED PROJECT**
**DATA SUMMARY 1999**

**University of Idaho Taylor Ranch and**
**Payette National Forest Krassel District**
**Joint Venture Agreement No. 12-JVA-99**

**Overview:**

Data Collection. We collected detailed information on the size and density of the Goat Creek knapweed site. The Taylor Ranch crew spent 288 hours mapping the Goat Creek site, assessing knapweed density, and pulling knapweed at Goat Creek and other sites. The Goat Creek site was measured in 2 sections: west of Goat Creek and east of Goat Creek.

West Goat Creek: Knapweed covered a 10,570 $m^2$ (2.61 acre) area. Seventy-nine percent of plots within the map perimeter contained knapweed. The 248 m long knapweed area included essentially the entire river terrace not covered by trees or shrubs. The site had a mean knapweed plant density of 106 plants/$m^2$ (88.6 plants/$yard^2$). Knapweed density in plots ranged from 0 to 55 plants, with a median density of 8 plants per plot (80 plants/$m^2$).

East Goat Creek: Knapweed covered a 5170 $m^2$ (1.28 acre) area. Seventy-eight percent of plots within the map perimeter contained knapweed. The 50 m long knapweed area was bounded by riparian shrubs of Goat Creek on the west and pockets of knapweed infestation in grassland on the east. Knapweed will continue to spread east. The east Goat Creek site has a mean knapweed plant density of 61 plants/$m^2$ (50.8 plants/ $yard^2$). Knapweed density in plots ranged from 0 to 21 plants, with a median density of 5 plants/plot (50 plants/$m^{2)}$.

The monitoring design was labor intensive. We may not be able to monitor more than a few large weed sites per year at this monitoring frequency. Next year we may want to assess knapweed density and extent at Soldier Bar to provide a baseline data set. We can analyze the density data collected this year to determine if we can streamline the sampling rate while still assessing vegetation changes.

Knapweed Control. The Salmon-Challis SCA crew spent 197 hours controlling knapweed and rush skeletonweed at Goat Creek and other sites. The SCA crew treated noxious weeds on a 6,886 square meter area. The Taylor Ranch crew did not document size of area treated. Weed control was prioritized along the trail at Goat Creek, at the streambank along Big Creek, around perimeters of large infestations, and scattered individual plants or small sites.

Control along the trail at Goat Creek resulted in a dramatic visual effect, since knapweed was such a dominant species. Unfortunately, when knapweed was removed it left a bare ground seed bed for new seedlings. The high density of knapweed plants along the trail resulted in a low pulling efficiency.

Other Weeds. The SCA crew documented and controlled 2 rush skeletonweed sites. Sulfur cinquefoil was tentatively identified in a wide occurrence from the NE side of Taylor Ranch to Cougar Creek. These noxious weeds had not been "noticed" previously. Canada thistle sites have not been mapped on lower Big Creek.

**Recommendations for 2000:**

Weed Surveys

- Locate and map additional noxious weed sites on lower Big Creek
- Use a GPS to determine weed site locations and extent.
- Map density and extent of knapweed infestation at Soldier Bar and Cougar Creek.
- Compare size of controlled sites in Goat Basin in 1999 and 2000.

Weed Control

- Prioritize new or small sites where weeds can be eliminated after several years of manual weed control.
- Develop a weed plan for treatment of larger infestations: Goat Creek and Soldier Bar.
- After intensive weed control, revegetate bare ground with native grasses, shrub, and forbs.
- Develop a knapweed free stock handling area with hitch rails at Soldier Bar to minimize spread of knapweed by packstock.
- Increase District manpower for noxious weed monitoring and control.

Table 1. Knapweed sites documented and treated on Big Creek in 1999.

| Site Location | UTM | Size of Infestation | | Area Treated | |
|---|---|---|---|---|---|
| | | $m^2$ | #plants | $m^2$ | % |
| Lobauer Basin | 665,880E 4,997,100N | ~30 | 5 | 30 | 100 |
| Taylor Ranch W | 668,400E 4,996,640N | | 890 | | 100 |
| Taylor Ranch E | 669,650E 4,996,450N | 10 | 30 | 10 | 100 |
| Cliff Creek Camp | 668,780E 5,000,340N | | 150 | | *100 |
| Salt Lick | 669,710E 4,996,200N | 1 | 1 | 1 | 100 |
| Pictograph | 670,210E 4,996,340N | 1 | 1 | 1 | 100 |
| Cougar Flat | 671,260E 4,996,550N | ~150 | 50 | 150 | 100 |
| Cougar Creek | 671,440E 4,996,680N | 465 | | | perimeter |
| Goat Creek W | 672,580E 4,997,030N | 10,566 | | 1,340 | 13 |
| Goat Creek E | | | | | 1 |
| Goat Creek beach | 672,540E 4,996,900N | 450 | | 450 | 100 |
| Goat Basin S | 672,720E 4,997,560N | 155 | | 155 | 100 |
| Goat Basin Camp | 672,800E 4,997,560N | 430 | | 430 | 100 |
| Administrative Site | | 1 | 8 | 1 | 100 |
| Soldier Bar | 673,460E 4,996,680N | large | | | 1 |
| Big Creek Gorge | 673,200E 4,996,800N | 64 | 15 | 64 | 100 |

Table 2. Rush Skeleton Weed sites documented and treated on Big Creek in 1999.

| Site Location | UTM | Size of Infestation | | Area Treated | |
|---|---|---|---|---|---|
| | | $m^2$ | #plants | $m^2$ | % |
| 3/4 mi. W of Cougar Cr. | | 3790 | | 3790 | 100 |
| 1/4 mi. W of Cougar Cr. | 670,970E 4,996,420N | 495 | | 495 | 100 |