

## Birds and Burns Network

Progress Report 2002

Location: Helena National Forest State: Montana

**Purpose:** (see Joint Fire Sciences Program, Proposal # 01-1-3-25: *Prescribed fire strategies to restore wildlife habitat in ponderosa pine forests of the Interior west [Saab, Kotliar, Block]*).

**Partners:** U.S. Department of Agriculture, Forest Service, Rocky Mountain research Station, Research work Unit Numbers RMRS-4156, -4251, and -4852.

**Study Area Description:** Four study sites are located southwest of Helena, Montana in the Elkhorn mountain range. Two sites are proposed for mechanical and prescribed fire treatments, and a control site is paired with each of the treatment sites. The overstory vegetation on the four study units is dominated by a mixture of ponderosa pine (*Pinus ponderosa*) and Douglas-fir (*Pseudotsuga menzeisii*). Other tree species present are aspen (*Populus tremuloides*) and lodgepole pine (*Pinus contorta*) each of which can occupy a significant portion of the canopy in microsites. The understory vegetation is variable, with some areas of very sparse grass cover, dominated by bluebunch wheatgrass (*Pseudoroegneria spicatus*) and Idaho fescue (*Festuca idahoensis*). Other understory areas are dominated by snowberry (*Symphoricarpos albus*), Oregon grape (*Berberis repens*) and kinnickinnick (*Arctostaphylos uza-ursi*), as well as numerous forbs and grasses. More productive grassland areas are dominated by rough fescue (*Festuca scabrella*) with a significant component of the introduced timothy grass (*Phleum pratense*). The noxious weeds dalmation toadflax (*Linaria dalmatica*) and spotted knapweed (*Centaurea maculosa*) occur in the grassland microsites located within the westernmost unit, and are adjacent to the other sites. There is a significant litter buildup from ponderosa pine needles in areas.

The topography of the area ranges from gentle and rolling with less than 30% slope, to steeper areas of up to 50% slope. The area is a second growth forest that was created around 1900, so most trees are approximately 100 years old. Generally there is not significant down woody material or plentiful standing snags due to firewood gathering and the age of the forest.

**Methods:** Methods generally follow those outlined in the Joint Fire Sciences Program, Proposal #01-1-3-25: *Prescribed fire strategies to restore wildlife habitat in ponderosa pine forests of the Interior west [Saab, Kotliar, Block]*. The canopy closure of the area does not vary sufficiently to stratify plots by canopy closure. No avian information was collected in the summer of 2002 due to the late start of the 2002 data collection effort.

**Preliminary Results and Discussion:** Four study sites have been located, with twenty plots in each study site. Two of the sites are within treatment areas where mechanical tree removal coupled with prescribed burning in the understory are proposed. Each treatment site is paired with a control site, which has similar habitat. The data collection was completed for the two treatment study sites in the summer of 2002, with 20 plots

established on each site (40 plots total). The control sites are planned for data collection on vegetation and in the summer of 2003. Avian information will be collected on all four sites in 2003.

**Vegetation:** Vegetation was measured at each of the 40 plot locations where data was collected in the summer of 2002. Following is a vegetation list from 2002 for the woody species within the plots:

Mountain alder (*Alnus incana*)  
Serviceberry (*Amelanchier alnifolia*)  
Kinnickinnick (*Arctostaphylos uva-ursi*)  
Oregon grape (*Berberis repens*)  
Princes pine (*Chimaphila umbellifera*)  
Red-osier dogwood (*Cornus stolonifera*)  
Common juniper (*Juniperus communis*)  
Rocky mountain juniper (*Juniperus scopulorum*)  
Ponderosa pine (*Pinus ponderosa*)  
Lodgepole pine (*Pinus contorta*)  
Quaking aspen (*Populus tremuloides*)  
Chokecherry (*Prunus virginiana*)  
Douglas-fir (*Pseudotsuga menzeisii*)  
Bitterbrush (*Purshia tridentata*)  
Woods rose (*Rosa woodsii*)  
Wild raspberry (*Rubus idaeus*)  
Upland willow (*Salix scouleriana*)  
Buffaloberry (*Shepherdia canadensis*)  
Spiraea (*Spiraea betulifolia*)  
Snowberry (*Symphoricarpos albus*)

**Notes:** In the summer of 2003 data will be collected from two control sites, 20 plots established in each site (40 plots total). The control sites are similar habitats to the treated sites, where data was collected in 2002. Avian data will be collected from all four sites in 2003.