

**Fort Union Trading Post NHS  
Housing (Block 2) Prescribed Fire Monitoring Report  
April 23, 2004**



*Prepared by Katie Johnson  
Northern Great Plains Fire Effects Monitor*

**Burn Unit Summary**

The Housing RX unit is a 20 acre unit at Fort Union near the housing area and the maintenance shop. It is bounded to the northwest by a maintenance road and to the east and south by a mowed line.

Vegetation Type: Smooth brome dominated grasslands with 2-3 acres of hardwoods

Personnel: Burn Boss: Andy Bundshuh (RXB2T)  
Ignition Specialist: Beth Card (RXI2/RXB2)  
Ignition Personnel: Vickie Mates, Katie Johnson  
Holding Specialist: Dwight Newman  
Fire Monitor: James Leckie  
2 Type 6 Engines: Buffalo 101, 102  
2 ATV's

**Objectives**

Objectives of the Housing RX are as follows:

- Reduce 1 hour dead and down fuels in prairie by at least 50%, immediate post burn, not to exceed 85%
- Hardwood mortality not to exceed 10%
- Protect small cottonwood trees in NW corner of the unit, near the maintenance shop

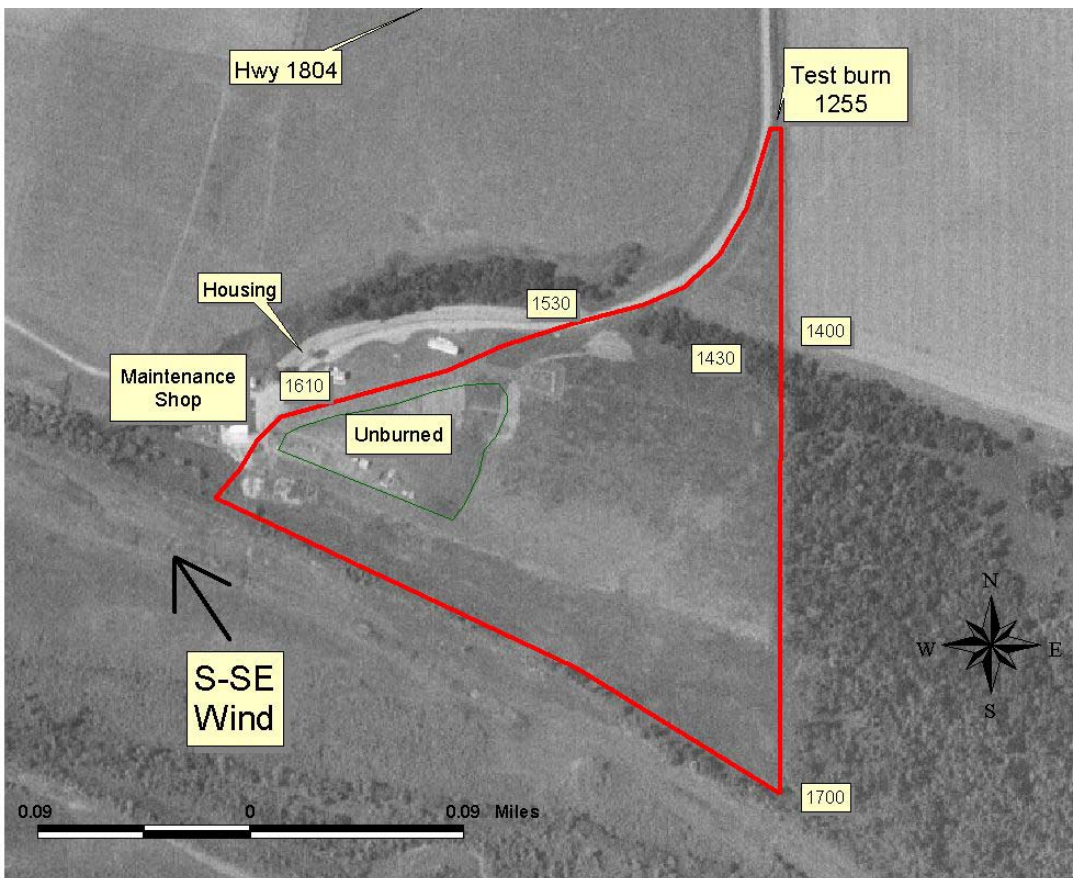
**Weather Observations**

Time	Temperature			Wind		PIG	FDFM
	Dry	Wet	RH	Speed	Direction		
1120	45	40	65	3-5	E	20%	13%
1255	52	43	47	8 G 12	SE	40%	8%
1358	55	43	34	9 G 14	S	40%	7%
1450	57	44	32	5 G 7	S	40%	7%
1554	60	46	31	4-7	S	40%	8%
1654	64	49	31	4-6	SSE	40%	8%
1756	65	49	29	2-4	S	40%	8%

**Biomass and Soil Moisture**

Type	Sample size	Fuel Loading	Average Soil Moisture
Smooth Brome	3	2.42 tons per acre	
Smooth Brome	3		23.5%

**Fire Progression**



A test fire began at 1255 hrs. (mountain time) and ignition was initiated. The segment north of the hardwood draw was ignited on both sides which allowed a backing fire to carry into the small field, with several strips lighted across to bring head fire. This was continued until the draw was reached. Then the draw was ignited with strips, as a backing fire would not carry. After 1430, strips of head fire were taken across the field, and at 1530 the igniter started backing fire along the north western perimeter of the unit. The mowed maintenance parking area was left unburned. Then after 1610, head fire was brought along the southern perimeter until the fire was tied in at the southeast corner at 1700. Mop up was then conducted in the hardwood draw until 1900. Two engines monitored the draw on the morning of the 24<sup>th</sup> until the burn was 100% cold.

### **Smoke Monitoring**

Due to the south to southeast winds, smoke on Highway 1804 was of concern. The National Weather Service called for a mixing height of 3000 feet. This allowed for smoke to disperse before it impacted to road. Smoke was often a concern for the holding resources on the northwest perimeter; however, after fire backed from the perimeter smoke dispersal and visibility increased dramatically.

### **Fire Monitoring**

There are no long-term monitoring plots in this unit; however there is an established photo point. This monitoring photo will be retaken after 1, 2, 5, and 10 years. It was observed that the smooth brome in the burn unit probably had not reached the stage where fire would have a considerable effect. It has been shown that smooth brome needs to be in a phenological stage where 3-5 leaves are established on the current-year tiller.

