

Fire Rehabilitation Efforts In The Elko District

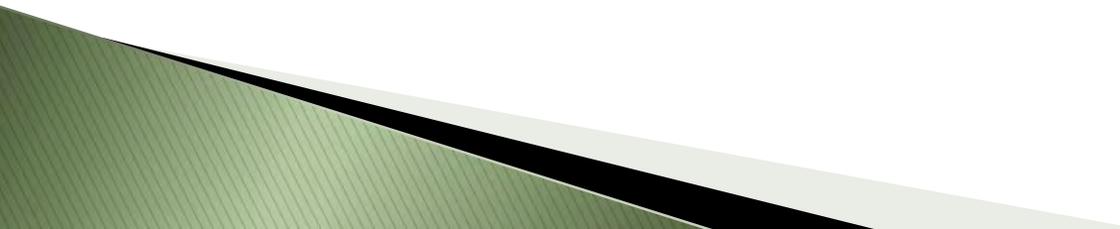
*Sagebrush Seeding
2000 West Basin Fire*

**By Tom Warren
Operations Manager
Elko District**



09.21.2005

Emergency Stabilization issues addressed up to one year following fire containment

- Human Life and Safety
 - Soil/Water Stabilization
 - Designate Critical Habitat for Listed, Proposed or Candidate species.
 - Invasive Plants
 - Monitoring
- 

Life and Property

A large, dark, billowing plume of smoke or dust rises from a landscape of charred trees and hills. The foreground is filled with blackened, skeletal remains of trees. In the background, there are brown, hilly mountains under a clear blue sky. Several utility poles are visible on the hillsides.

2003 Schell Fire

Dust Hazard to vehicles on highways



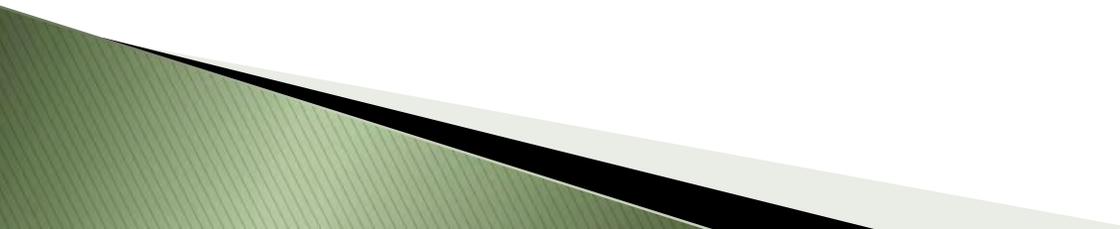
Soil Erosion/ Mud Slide Public Safety Issues

Schell Fire 2002

Wind Soil Erosion

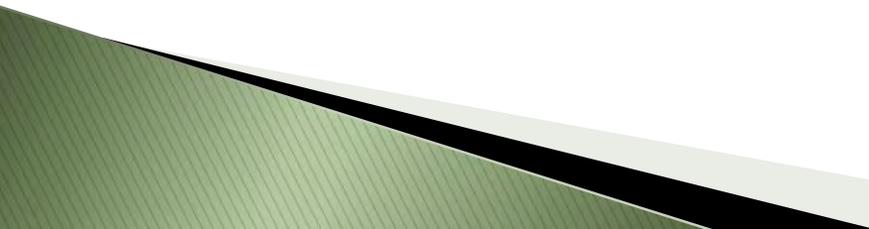


Emergency Stabilization and Rehabilitation Issues addressed second and third year following fire containment

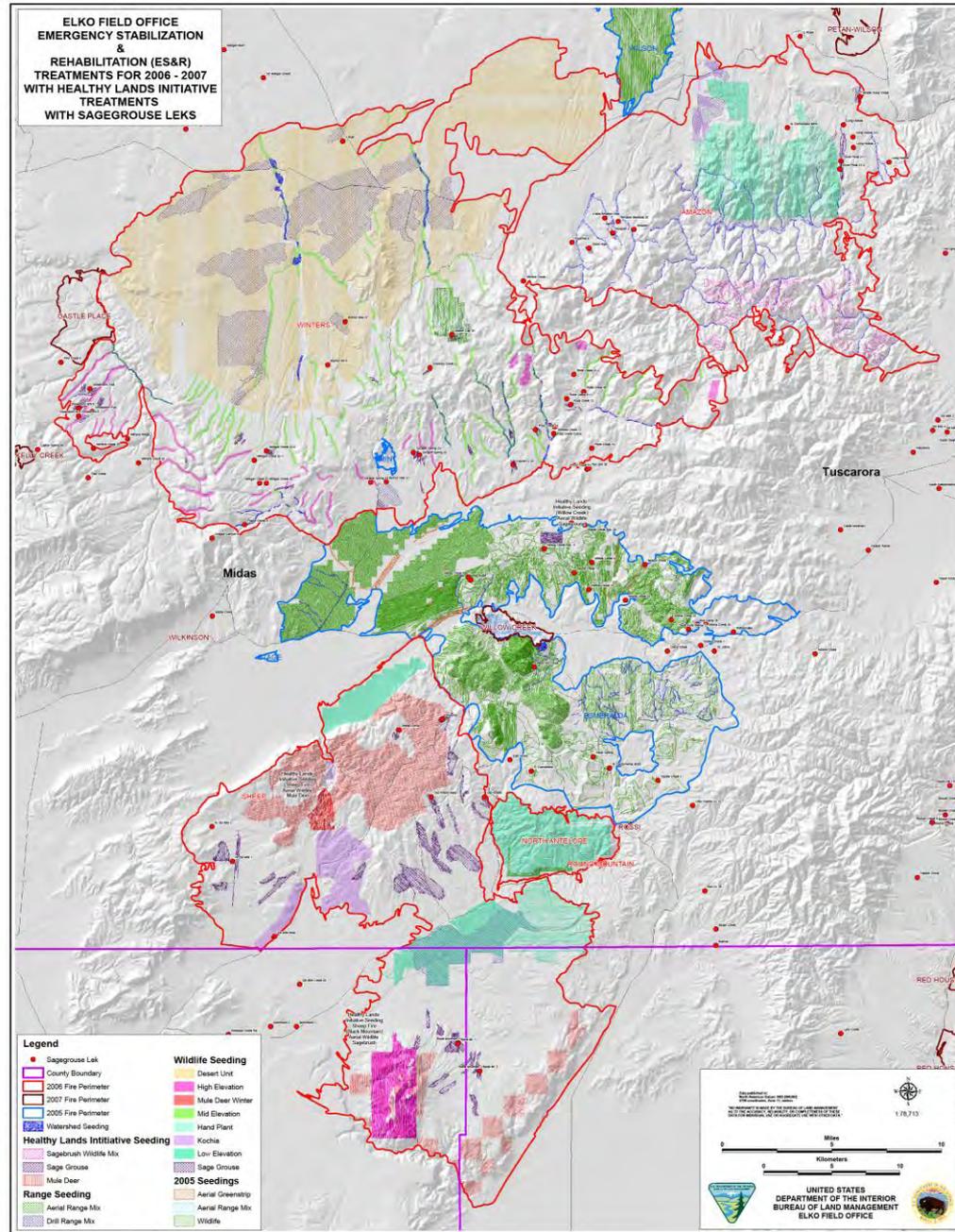
- Lands Unlikely to Recover Naturally
 - Weed Treatments
 - Repair/ Replace Fire Damage to Minor Facilities
 - Monitoring
- 

When to treat burned areas

What damage did the fire do to the soil and plants

- Look at fire severity. Is the soil hydrophobic?
 - Look at Ecological Status Inventory/Assessments
 - Use BARC Maps – Satellite Imagery
 - Use Soil Surveys and Rangesite descriptions
 - Look at unburned islands
 - Look at post fire recovery of adjacent burns
 - Presence of invasive species
- 

ESR Treatments 2005 - 2007



Treatment Acres for Years 1999-2011

Watershed Treatments														
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total Acres
Aerial Watershed	1,488	1,930	2,391				5,228	17,270	7,244		247		11,387	47,185
Total Acres	1,488	1,930	2,391	0	0	0	5,228	17,270	7,244	0	247	0	11,387	47,185
Wildlife Treatments														
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total Acres
Aerial Wildlife Seed Mix	87,943	45,539	38,795		300		50,157	179,957	91,250	10,568	5,287	996	44,052	554,844
Aerial Kochia							260	10,308	8,881	1,647			2,791	23,887
Hand Plant Bitterbrush	825							236			55			1,116
Total Acres	88,768	45,539	38,795	0	300	0	50,417	190,501	100,131	12,215	5,342	996	46,843	579,847
Range Treatments														
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total Acres
Aerial Range	204,723	10,984	16,026				649	5,120						237,502
Disk/Drill	6,370	1,757	552											8,679
Drill	24,251	7,537	9,203	90	230		3,291	38,305	18,311	653	106	256	17,000	119,233
Total Acres	235,344	20,278	25,781	90	230	0	3,940	43,425	18,311	653	106	256	17,000	365,414
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total Treatment Acres Years 1999-2009
Total Acres by Year	325,600	67,747	66,967	90	530	0	59,585	251,196	125,686	12,868	5,695	1,252	75,230	992,446

ESR Treatments

- Drill Seeding
 - Chaining
 - Harrowing
 - Aerial Seeding
 - Invasive Species Treatments – Mechanical and Chemical
 - Seedling Planting
 - Exterior burn protective fence construction/removal
 - Interior fence repair of Coop fences.
 - Monitoring
- 

Rangeland Drill Seeding

2006 Mudd Fire



Truax Drill Seeding

*2003 Savanna Fire
November 2003*



***2006 Susie Fire
drill seeding with
Sagebrush overseeding***



*2006 Winters Fire
native drill seeding
January 2007*



***2006 Winters Fire
native drill seeding
June 2009***



***2006 Winters Fire
Native drill seeding with
Sagebrush overseeding
June 2009***



***2006 Winters Fire
area not drill seeded
February 2012***



***2006 Winters Fire
native drill seeding
with aerial Sagebrush overseeding
February 2012***



***2007 Sansinena Fire
drill seeding with Sagebrush mix
March 2008***



*2007 Sansinena Fire
drill seeding with Sagebrush mix
May 2009*



Healthy Lands Initiative Seeding



Rangeland Drill Area

*2006 Winters Fire Truax drill and
rangeland drill seedings
Completed in October 2007
Photo taken June 2008*

Truax Drill Area

2007 Healthy Lands Initiative Seeding

Rangeland Drill on left

Truax drill seeding on right

Completed in 2007

***2006 Winters Fire
February 2012***



2006 Winters Fire



August 2007

2006 Winters Fire - HLI Seeding



February 2012

**2006 Winters Fire
2007 HLI Seeding**



February 2012

2006 Winters Fire - HLI Seeding



February 2012



Rooster's Comb Native
Truax Drill Seeding

October 2010



June 2011



Sagebrush
Seedlings

June 2011



Tuscarora Sagebrush Restoration
Project

June 2011



2010 Owyhee Bluffs Drill Seeding

Tuscarora Sagebrush Restoration Project

May 2011

Pipe Harrow



Esmeralda Fire



**2005 Esmeralda Fire –
before pipe harrow seeding**



04.15.2006

2005 Esmeralda Fire

July 2011



Chaining

*Chaining on West Fork Fire
November 2007
done after aerial seeding to
cover seed*



**West Fork Fire Chaining
October 2011**



Seedling Planting

NV Muley's/NDOW/BLM
Sagebrush Seedling Planting –
April 2, 2011
Middle Rock Creek



Bitterbrush Seedling Planting

**Mule Deer Foundation/
NDOW/BLM/Jackpot
School Science Club
2005 Contact Fire**



03.23.2006

Aerial Seeding



**2006 Winters Fire
Aerial Sagebrush Seeding**



January 2007

**2006 Winters Fire Aerial
Sagebrush Seeding**

February 2012



**Sage Grouse Habitat
Aerial Sagebrush Seeding**

***1999 Sadler Fire
August 2001***

7 18 2001



2005 Esmeralda Fire ESR Seedings

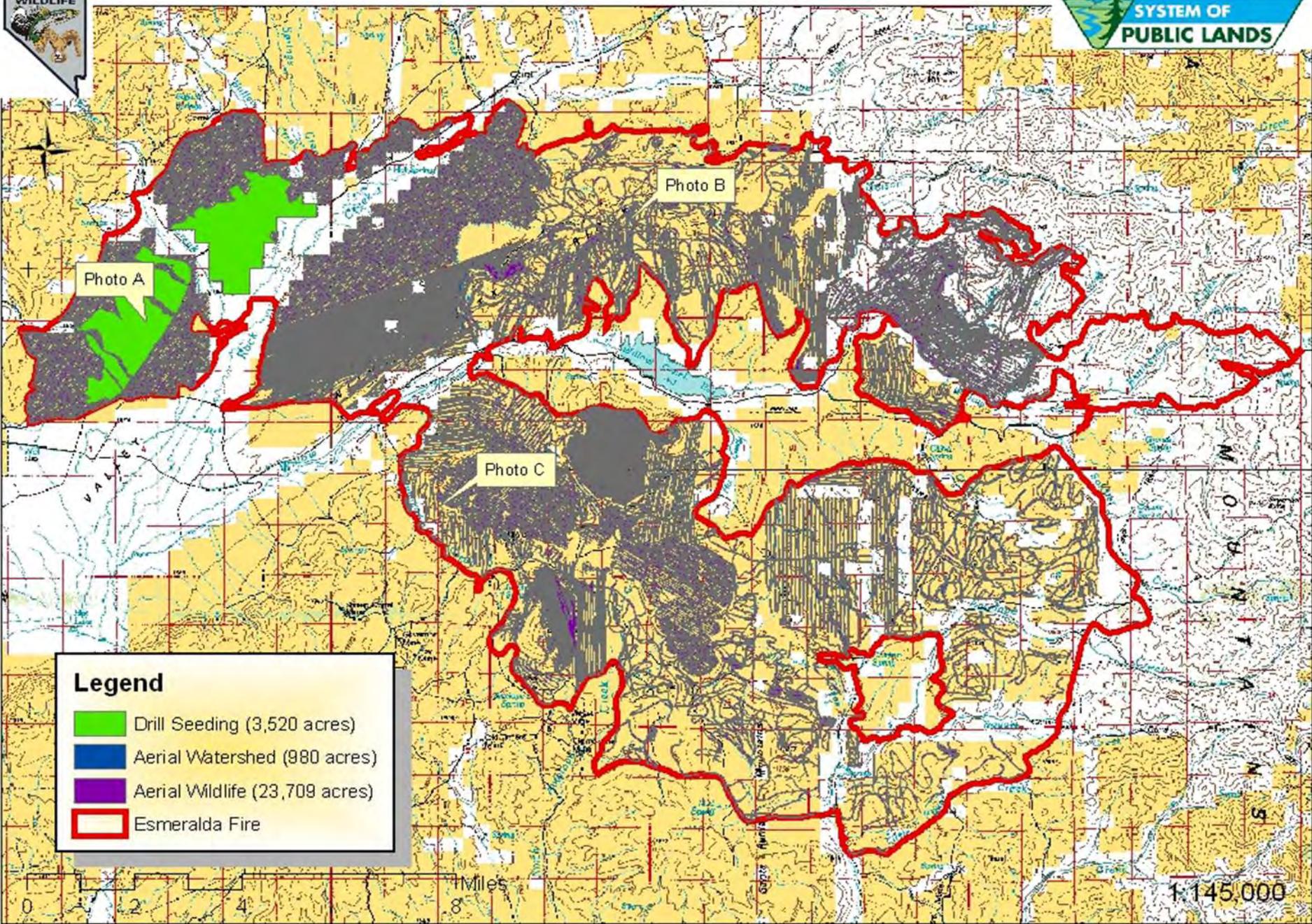


Photo A
2005 Esmeralda Native drill seeding
and aerial Sagebrush and Western
Yarrow Seeding

June 2008



Photo B

**Aerial Sagebrush/Yarrow seeding on Willow Creek Ridge
adjacent to lek areas**



Photo C

**Aerial overseeding with native grasses and sagebrush
followed by pipe harrowing**

July 2011



Mule Deer Winter Range Rehabilitation

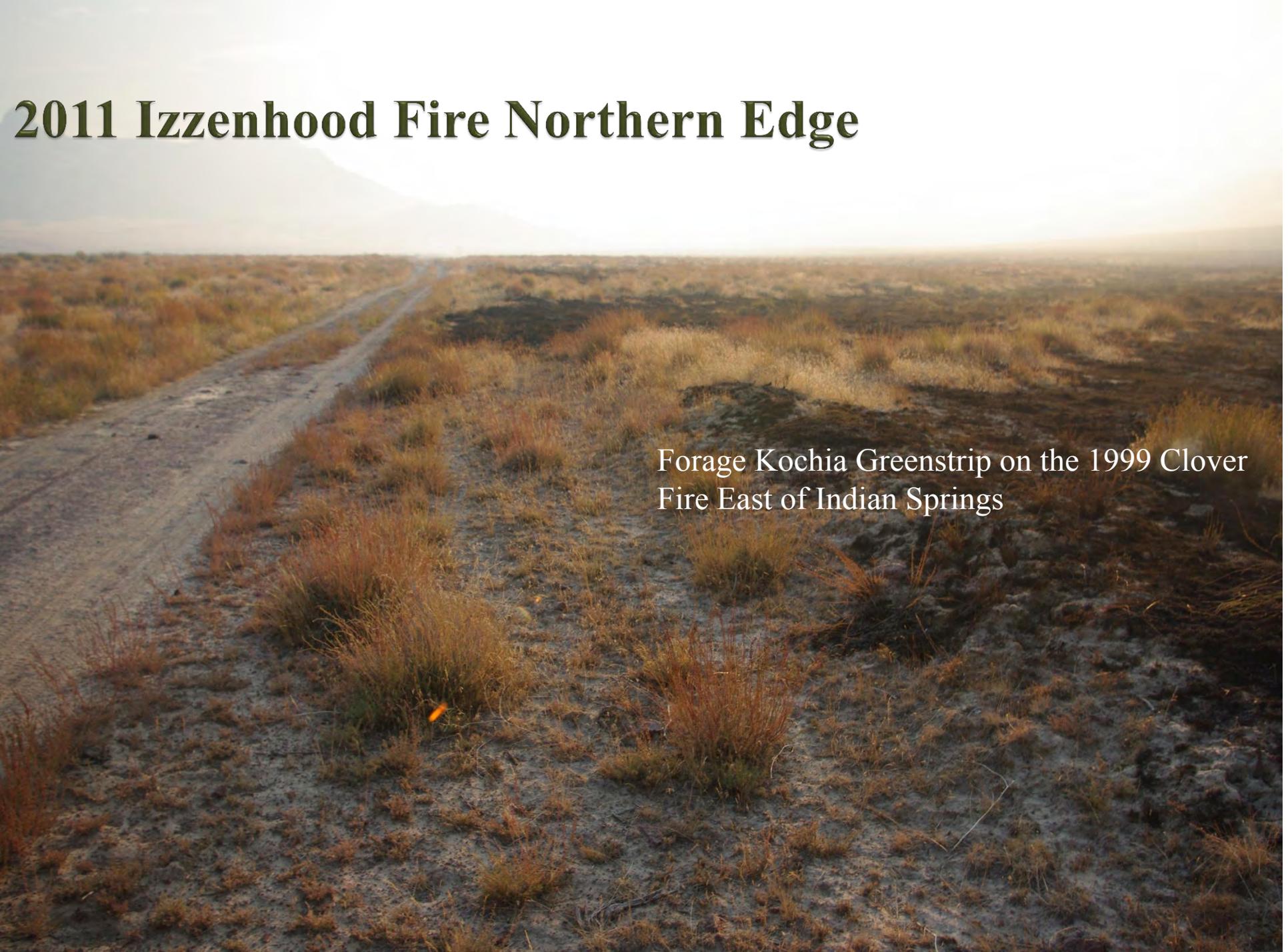


Izzenhood Basin
Mule Deer Winter Range aerial seeding of Kochia and
Sagebrush



1999 Clover Fire Rehab Seeding

2011 Izzenhood Fire Northern Edge



Forage Kochia Greenstrip on the 1999 Clover
Fire East of Indian Springs

Antelope Winter Range



Aerial Seeding –
Susie Fire Big
Game winter
range



Sagebrush use
by Antelope



Forage Kochia
utilization by
Antelope

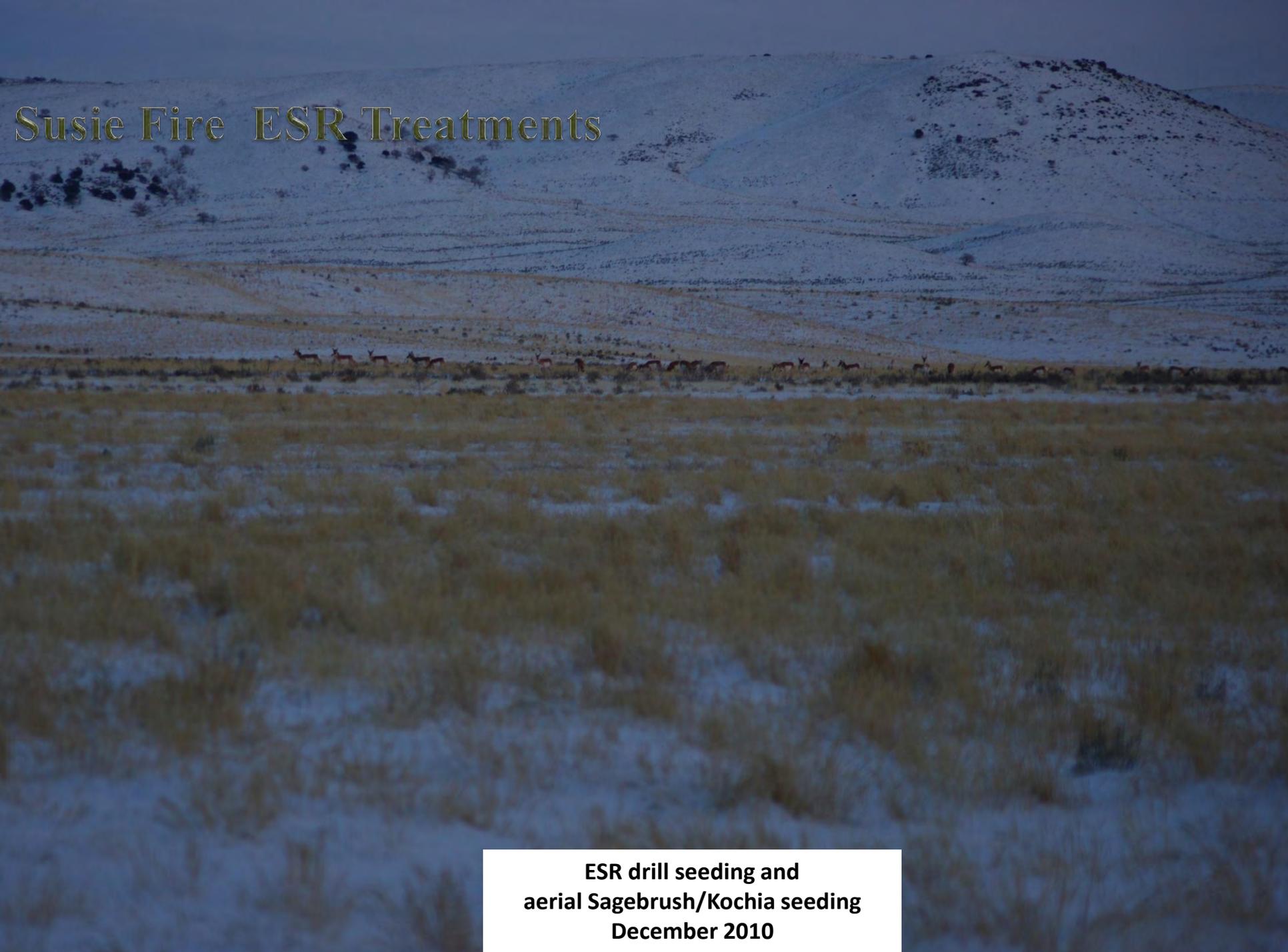


Susie Fire Antelope
Winter Range Rehab
seeding



December 2011

Susie Fire ESR Treatments



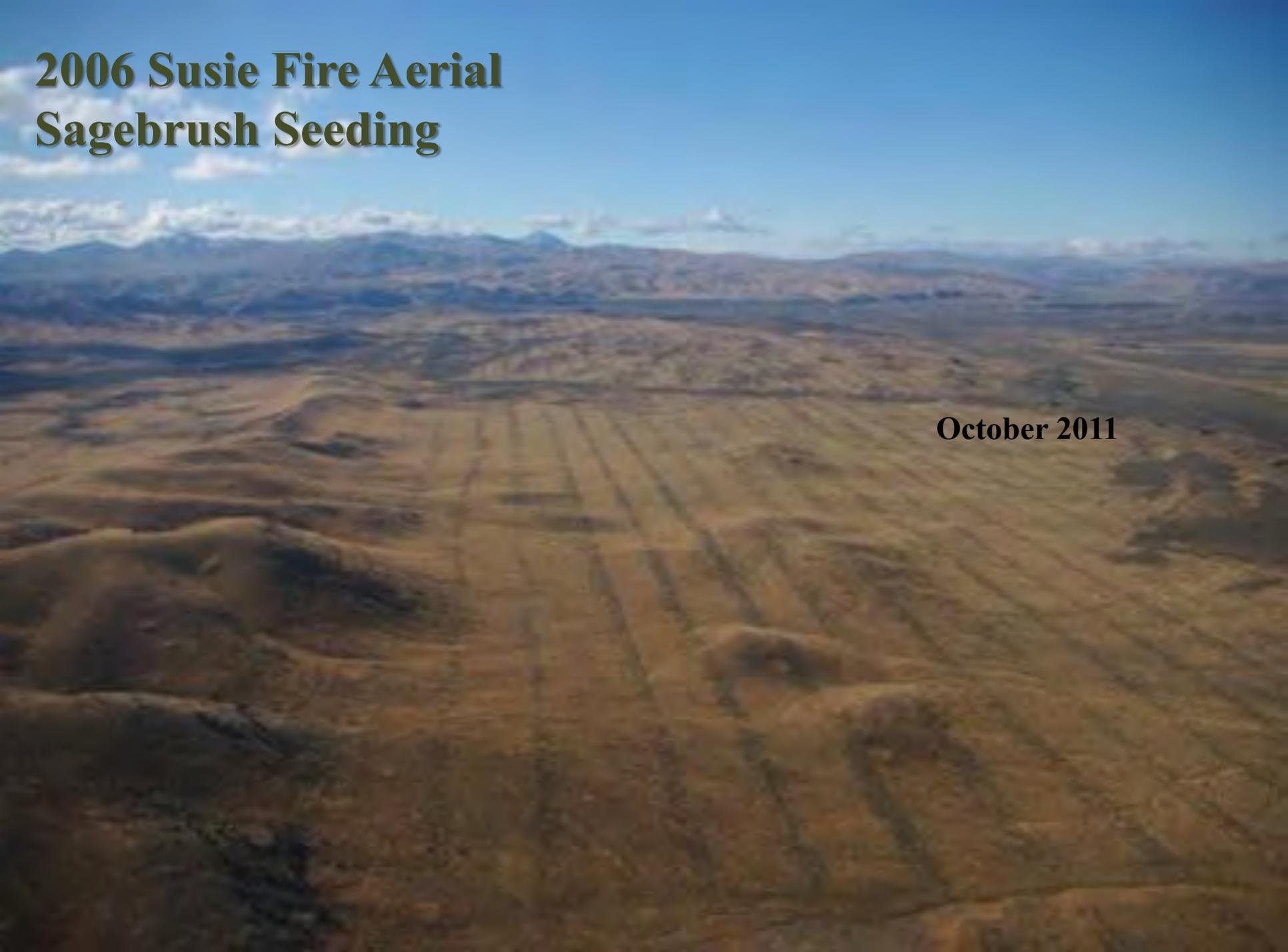
**ESR drill seeding and
aerial Sagebrush/Kochia seeding
December 2010**

2006 Aerial Sagebrush Seeding



2006 Susie Fire Aerial Sagebrush Seeding

October 2011



Herbicide Treatment of Noxious Weeds & Invasive Species

2006 Susie Fire Scotch Thistle
Treatment June 2008



Backpack Spraying Knapweed





Black Henbane
mechanical
treatment

June 2008 West Fork Fire Dozer line



Rooster's Comb Seedbed prep with herbicide Imazapic and Glyphosate April 2010.

2006 Susie Fire

April 2007



July 2008



June 2010



June 2011



**2006 Susie Fire Truax drill
seeding - Dry Gulch**



October 2006

2006 Susie Fire

April 2007



2006 Susie Fire

June 2008



2006 Susie Fire

June 2010



2006 Susie Fire

July 2011



**2006 Susie Fire
Dry Gulch**



July 2006

2006 Susie Fire drill seeding

July 2011



2006 Susie Fire follow up drill seeding

August 2009



2006 Susie Fire ESR Treatments

ES Drill Seeding & Noxious Weed Treatment

September 2008



June 2010



Izzenhood Basin Restoration and Fuels Treatment at base of mountain

West of Rooster's Comb

November 2011

Cheatgrass Dominated loamy
5-8" Rangesite

Livestock Winter Range in
25 Allotment



West of Rooster's Comb

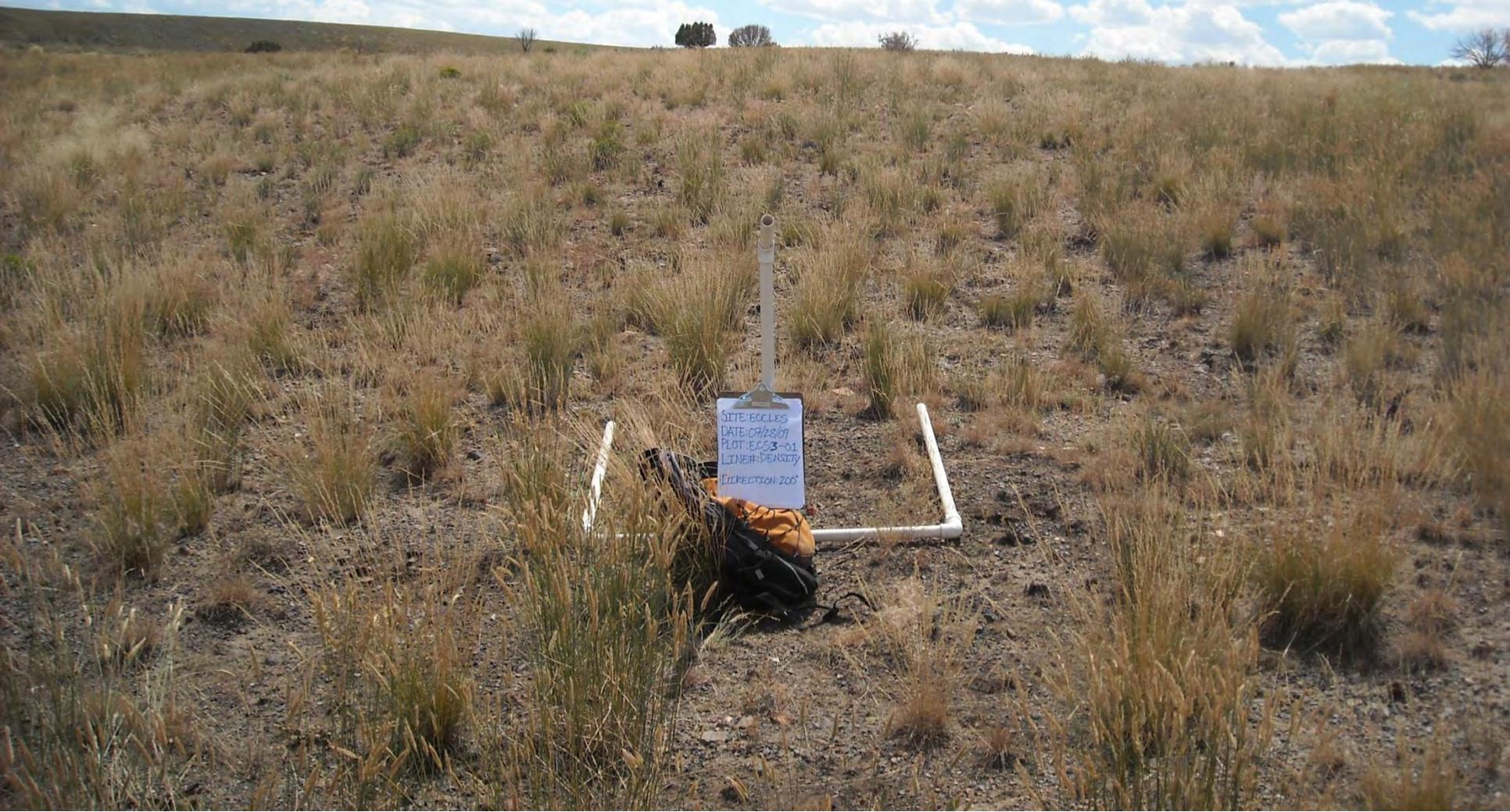
March 2008



Eccles Fire drill seeding

ESR Monitoring up to three years

Plan to complete follow up monitoring 5 and 10 years from date of treatments



Post Treatment Management

Need to look at long Term Goals



11.13.2008

2007 Eccles Fire drill seeding

October 2011

END