Mallard Slough Prescribed Fire

Camas NWR

Escaped Prescribed Fire Review

Final Report - 4/8/2009

Prepared By: */s/ Brett Fay* **Date:** 4/06/09

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Reviewed By: Pam Ensley **Date:** 4/08/09

Pam Ensley – R1 RFMC

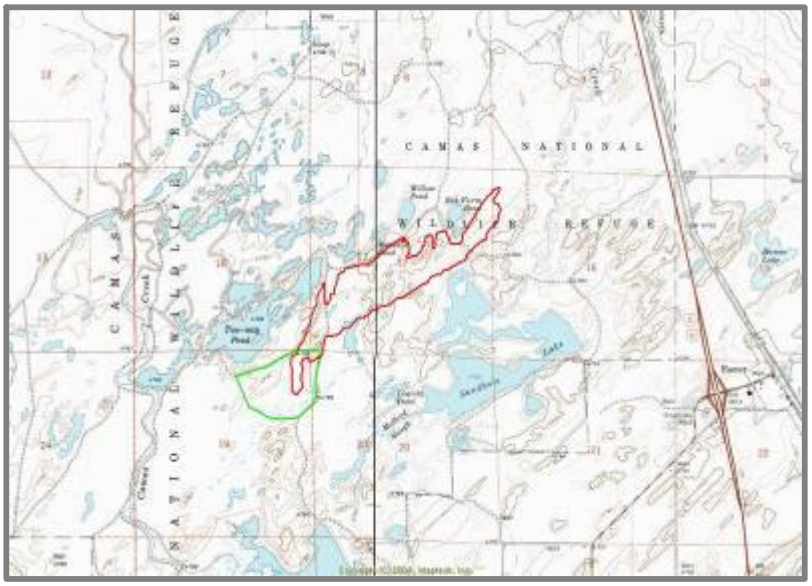
Approved By: **Date:** 4/9/09

Forrest Cameron, Refuge Supervisor

Introduction

The Mallard Slough Prescribed fire was ignited March 13th 2009 on the Camas National Wildlife Refuge (NWR) in South/East Idaho. The objective of the prescribe fire was to consume 95 – 100% of the dead materials in 13 medium (30' x 30') size machine piles. The piles consisted of branch and bowl wood from nearby Russian olive trees that were removed as part of a hazard fuels reduction project.

On March 21st the piles apparently still had some residual heat, that heat spread out of these piles and started a grass and brush fire that subsequently burned 172 acres on the refuge.



Map of the prescribed fire unit and subsequent escape fire perimeter. (Not to scale)

The Review Team consisted of:

Brett Fay, Assistant Pacific Region Fire Management Coordinator, USFWS. Qualifications pertinent to review Fire Behavior Analyst (FBAN), Prescribed Fire Burn Boss Type 1 (RXB1)

The following participated in the review and/or were involved in the burn:

Lance Roberts, South/East Idaho National Wildlife Refuge Complex, Fire Management Officer

Brian Wehausen, Camas Refuge Manager

Ignited piles on March 13, 2009

Summary Narrative

November 16, 2007 - The Burn Plan for “CSR Piles” was written

December 28, 2007 - Technical review was conducted by Edward Christy (RXB2, Fort Hall BIA FMO)

January 11, 2008 - The Project Leader approved the burn plan

March 13, 2009 – Brian W. and Lance R. ignited slash piles of Russian olive trees in Mallard Slough. Snow was present on the site and all conditions were within the burn plan parameter.

March 14, 2009 – A drive-by of the piles in the evening; approximately 16:00 and at least 5 piles had smoke coming from them, but no visible flame.

March 15, 2009 – The piles were checked on at approximately 8:00 and still smoke was visible from at least five piles and no visible flame.

March 16, 2009 – Local Refuge volunteers did a drive by of the piles at approximately 13:30 and did not notice any visible smoke from the piles at that time.

Looking North/East near the point of origin

March 21 2009 - On March 21 at approximately 16:40 Farrel Downs (Engineer Equipment Operator at Camas) reported seeing smoke which looked to be south of the refuge. Winds were picking up out of the SW and concern was if someone was burning off refuge, the fire could affect Camas. It was quickly recognized that the fire was on the Refuge.
At approximately 16:55 the Refuge Manger called 911 to request rural fire assistance and also recognized that the fire and/smoke could impact Interstate I-15.

Hamer VFD was first on the scene approximately 17:30 and began suppression efforts. By the time rural fire had arrived the fire had lost intensity and was not making big runs. The area did receive some intermittent rain showers as mop up

efforts were coming to a close. All rural fire support was on their way home by 2030 on March 21st.

Primary Finding and Recommendations

Findings

The burn plan met policy. The Implementation was consistent with the burn plan. Although this prescribed fire was planned and implemented within policy, there were unintended outcomes. The following are the lessons learned with subsequent recommendations:

1. A detailed system for checking the burn was not in place. This lead to "complacency" in thinking that the piles were extinguished, when in fact they still retained heat.

2. Small changes in the seasonal timing of burns can have dramatic outcomes. Generally prescribed fire pile burning occurs in January. Due to a large amount of snow this January, the ignition of these piles was postponed until March. Although large amounts of snow were still present on-site in March (2 foot high drifts), conditions that time of year can result in large swings in temperature vs. a January time frame.

Recommendations

The review participants identified the three following recommendations intended to reduce the probability of a similar event occurring in the future.

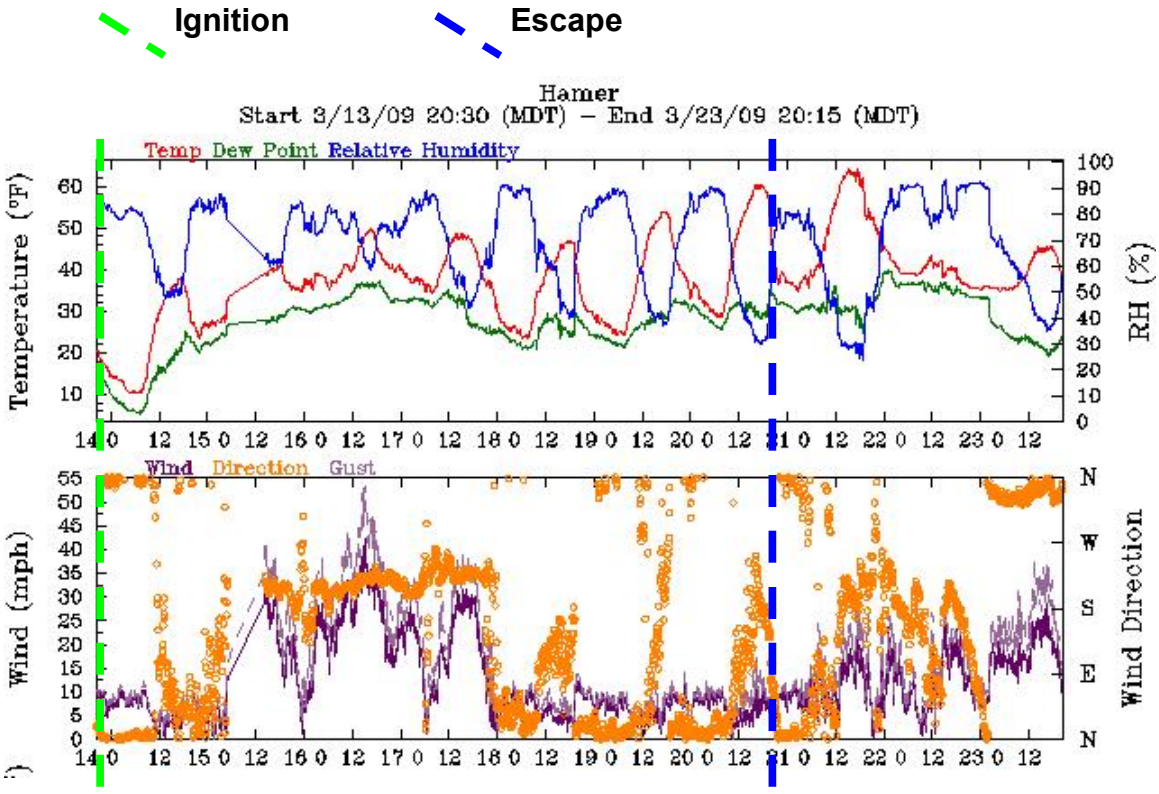
1. Develop mop-up and patrol check list. This list should be included in the burn plan and completed until the fire has no detectable heat. Include a definition of extinguishment in the burn plan. A draft format is in Appendix "a".

2. Describe in the mop-up and patrol plan, critrea for patrol and mop-up.
   i.e Patrol the unit from the perimiter road once a day prior to 1000 and look for visable smoke. If no smoke is visable for three days then the burn should be considered extinguished.
   Or
   i.e patrol the piles daily prior to 0900 and inspect for any residual heat by turning over likely areas with a shovel. If no heat is detected for two days no other patrol is neccasary and the burn would be consdered extinguished.

Burn Boss igniting piles on March 13th

3. Although burn plans are typically written to take advantage of the widest possible burn windows, they also can have unanticipated hazards when working on the shoulders of the seasonal implementation. In this case, igniting in March vs. January gave a better chance of a warm period that could make other fuels available. A general recommendation is to include seasonal considerations in the "scheduling" section of the burn plan.

An analysis of seasonal severity, weather events, and on-site conditions leading up to the wildfire declaration. Include fire weather forecasts including any spot forecasts, Remote Automated Weather Station (RAWS) data and National Fire Danger Rating System (NFDRS) data:
The Hamer Weather station is located 5 miles north of the burn unit. This station is managed by Idaho National Laboratories. A thirty day weather summary is contained in appendix "b".



An analysis of the actions taken leading up to the wildfire declaration for consistency with the prescribed fire burn plan. This will include whether it was adequate and whether it was followed:
Once the escape was identified the appropriate actions were initiated by the Refuge Manager and followed the burn plan instructions. The on-site agency administer managed the responding Volunteer Fire Department (VFD) effectively,

considering fire fighter and public safety above all other considerations. Appendix "c" contains the forecast used for ignition.

An analysis of the prescribed fire burn plan for consistency with policy:
The plan is consistent with Sept 2006 Interagency Prescribed Fire Planning and Implementation Procedures Reference Guide

An analysis of the prescribed fire prescription and associated environmental parameters:
The prescription was adequate and described the realities of burning piles in the winter. The adjacent fuels were described appropriately.

A review of the approving line officer's qualifications, experience and involvement including adequate program oversight:
The Line Officer that approved the prescribed fire burn plan had the appropriate training and qualifications for the complexity of the prescribed fire

A review of the qualifications and experience of key personnel involved:
Implementation of the prescribed burn was conducted by two individuals with appropriate experience and qualifications. The ignition was conducted by a Prescribed Fire Burn Boss II (RXB2) with over 30 years of prescribed fire application. He has functioned as a RXB2 over 72 times (IQCS records) The Lighter/Holder is a qualified Fire Fighter 2 (FFT2) with 10 years of occasional wildland fire experience.

A summary of causal agents contributing to the wildfire declaration:
The lack of consistent mop-up and patrol process lead to this prescribed fire escape.

Determine the level of awareness and understanding of procedures and guidance of the personnel involved:
Both the Burn Boss and Agency Administrator have a good understanding of procedures and guidance around prescribed fire planning and implementation.

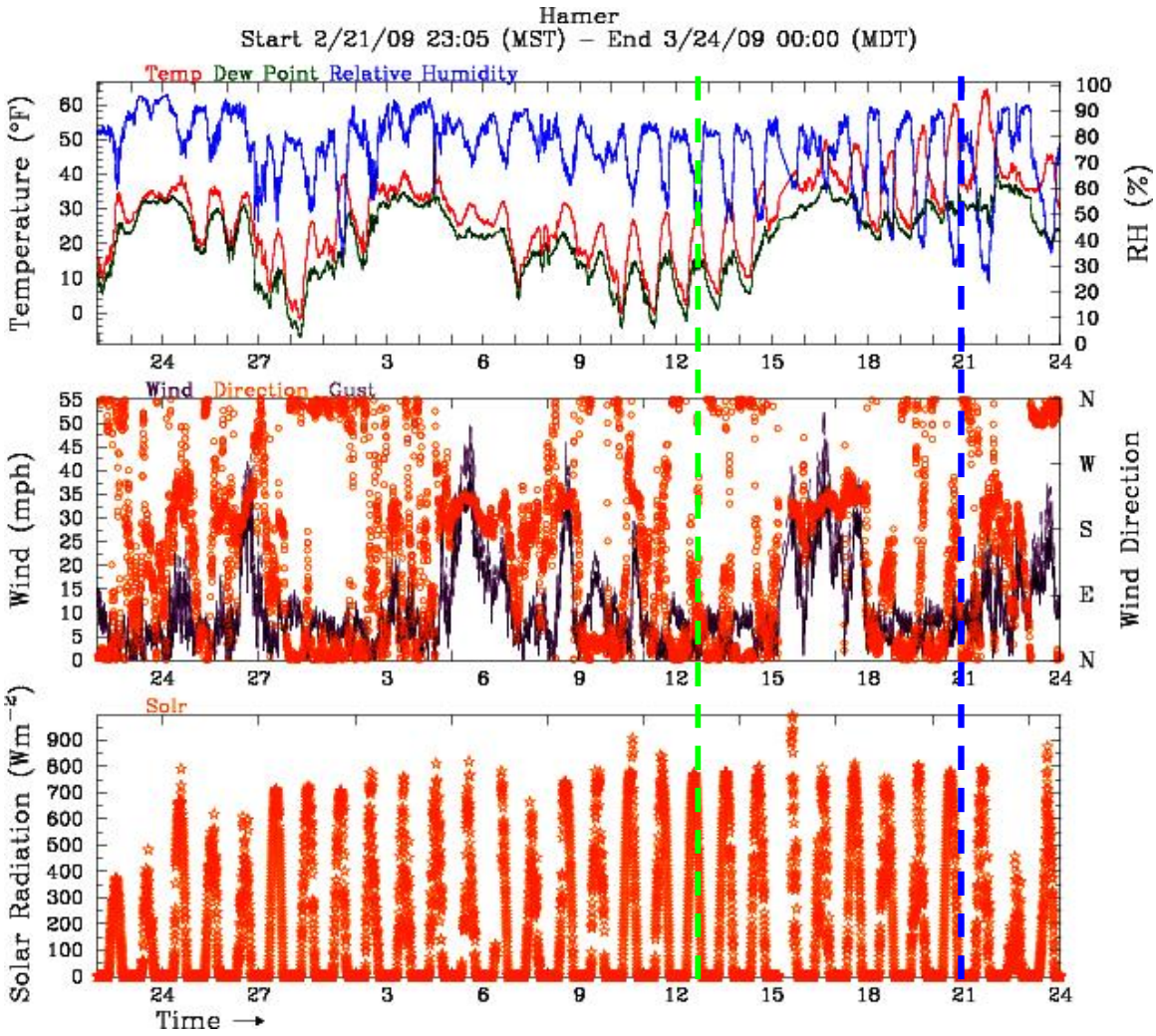
Establish accountability:
The local Fire Management Officer will develop a mop-up and patrol check sheet for use in future prescribed fire implementation.

Appendix a
Patrol and Mop-up check sheet (draft example)

Date and Time Checked	Notes/ Observations :	Smoke Y N
Name (s) and qualification of burn site inspectors		Heat Y N
		Criteria for extinguishment from burn plan
Responsible Burn Boss/Contact:		Fire Extinguished Y N

Appendix b
Weather summary from Hamer weather station from 2/24/2009 – 3/24/2009

Ignition March 13th Escape March 21st



Appendix c

Appendix c continued