
2012 Escaped Prescribed Fire Review Summary

Lessons from
Escaped Prescribed Fires



2013



Box Creek Escape in Utah.



Cottonwood Escape in California.



North Schell Escape in Nevada.



Compartment 07 Escape in North Carolina.



Forest Health Piles Escape in South Dakota.

“I was looking for a reason to do it, not a reason not to do it. There were plenty of reasons not to do it. But I was not looking at those.”

From the [Box Creek Prescribed Fire Escape FLA](#)

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Images from the Lower North Fork Prescribed Fire Review.

**What can
YOU
Learn
from the escaped
prescribed fires
of 2012?**

1. Introduction

The intent of this document is to provide prescribed fire practitioners, planners and agency administrators with a brief summary of the major themes that emerged from escaped prescribed fires in 2012.

This summary is not an all-inclusive recounting of these individual escapes. The reports associated with each escape serve that purpose well.

“Plan for potential, not for current conditions.”

**Box Creek Escaped Prescribed Fire FLA
participant**

In addition, this summary is not a checklist, a new set of procedures for field-operators, or even a list of recommendations for policy makers.

Rather, this review is intended to capture some of the common themes shared by these escapes and generate discussion between the critical audiences responsible for successful prescribed fires.



A heavy helicopter assists in efforts to contain the [Box Creek Escaped Prescribed Fire](#). (Image from InciWeb.)

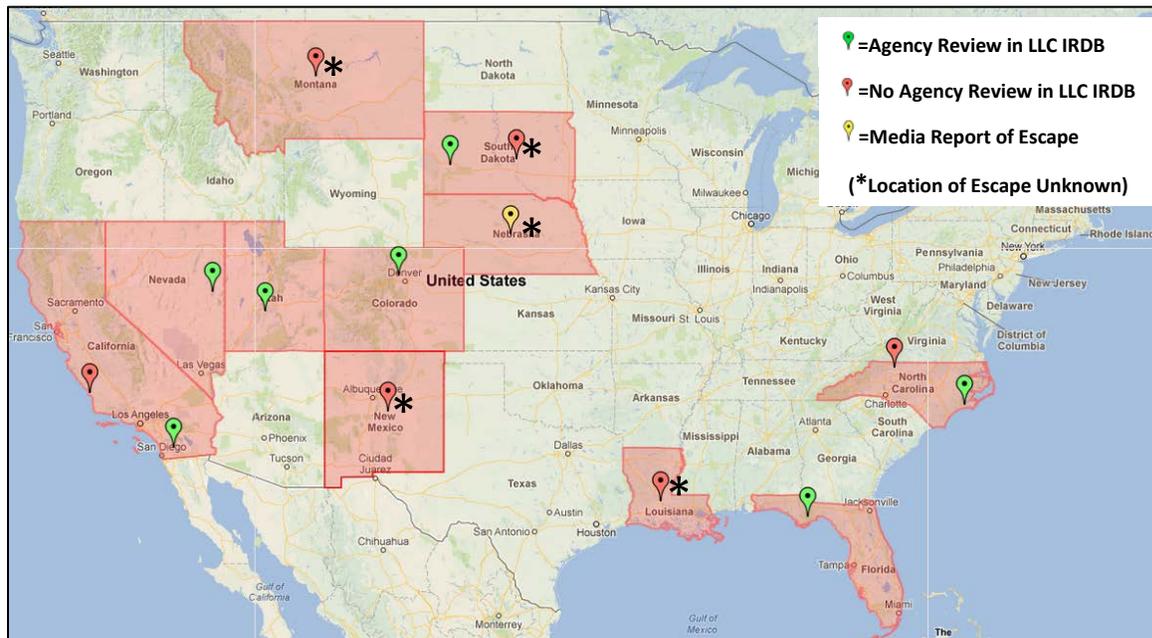
2. Overview of the 2012 Escaped Prescribed Fires

During the course of the 2012 season, the National Interagency Fire Center reports that 16,626 prescribed fires treated 1,971,834 acres¹. At the end of 2012, the Lessons Learned Center (LLC) received Reviews on seven escaped prescribed fires (housed in the LLC [Incident Review Database](#) [IRDB]). In addition, other agency notifications and media reports indicated seven additional escaped prescribed fires occurred in 2012. (Reviews from these seven events were not submitted to the LLC. Factors associated with these seven escapes are not considered in the detailed analysis that follows.)

When viewed as a whole, 14 escapes out of more than 16,600 prescribed fires represent a very small percentage: .08 %. While this might seem to be an insignificant number, it's only part of the story.

For the personnel who experience an escaped prescribed fire—as well as those affected by an escape—one escape is one too many.

Locations of 2012 Escaped Prescribed Fires by State (Locations approximated, unless noted)



14 escaped prescribed fires occurred in 11 states throughout the country in 2012. Seven Reviews exist in the Lessons Learned Center (LLC) Incident Review Database (IRDB). Analysis in this report focuses on these seven Reviews.

¹ [The National Interagency Coordination Center Wildland Fire Annual Report for 2012](#), Page 25.

These escapes ranged from 3.5 acres in size in the [Forest Health Piles Escaped Prescribed Fire](#) to more than 21,000 acres in the [North Schell Escaped Prescribed Fire](#). The impacts of these escapes ranged from 3.5 acres of private land burned (again in the Forest Health Piles Escape) to the impacts of the [Lower North Fork Escape](#) which ranked as one of the most significant escapes in the last 20 years. This escape ultimately resulted in 27 residences destroyed or damaged, \$11.3 million in property damages and the tragic deaths of three civilians.



Rapid spread on the Lower North Fork Escaped Prescribed Fire on March 26, 2012. (Image from InciWeb.)

2012 Escaped Prescribed Fire Reviews in the LLC Library				
Report Name (click to view Report)	State	Agency	Date of Implementation	Date of Escape
Forest Health Pile Escape FLA	SD	USFS	1/13/2012	1/13/2012
Apalachicola Unit 208 Escape	FL	USFS	1/28/2012	2/12/2012
Lower North Fork Prescribed Fire Review	CO	State of Colorado	3/22/2012	3/26/2012
Cottonwood Prescribed Burn Escape FLA	CA	USFS	4/3/2012	4/3/2012
Box Creek Prescribed Fire Escape FLA	UT	USFS	5/15/2012	6/4/2012
North Schell Escaped Prescribed Fire FLA	NV	USFS	6/9/2012	6/17/2012
Compartment 07 Prescribed Burn Escape FLA	NC	USFS	6/14/2012	6/17/2012
2012 Escaped Prescribed Fires with no Review in the LLC Library				
Prescribed Fire Name	State	Agency	Date of Implementation	Date of Escape
UNKNOWN	NM	BIA	Unknown	1/15/2012
Venjohn	SD	USFWS	3/6/2012	3/18/2012
UNKNOWN	NE	Private	Unknown	3/21/2012
UNKNOWN	MT	BIA	Unknown	5/15/2012
Boardwalk	LA	USFWS	8/2/2012	8/2/2012
Pilot Mountain	NC	State of North Carolina	11/7/2012	11/12/2012
Creek Fire	CA	CalFire	11/12/2012	11/13/2012

This table provides the basic information associated with known 2012 escaped prescribed fires. Reports are listed in order of occurrence from early to late 2012.

While the aim of this review summary is to move beyond the basic numbers and statistics and provide common themes that emerge when all of these escapes are reviewed collectively, there's certainly room to lay out a few numbers and dates.

What else can we learn from some of the basic numbers?

For starters, they tell us that escapes happen at various stages of implementation.

- Two escapes occurred within hours of project initiation:
 - [Forest Health Piles Escape](#), South Dakota: 7 hours 6 minutes after initiation.
 - [Cottonwood Escape](#), California: 3.5 hours after initiation.
- The average time between project initiation and escape was approximately seven days, with two escapes occurring more than two weeks after initial project initiation:
 - [Apalachicola Unit 208 Escape](#), Florida: 15 days after initiation.
 - [Box Creek Escape](#), Utah: 20 days after initiation.



Photo of the [Cottonwood Escaped Prescribed Fire](#) taken from the community of Oak Grove, Calif. at the time the fire was declared an escape. (Photo: [Cottonwood Prescribed Burn Escape FLA.](#))



Photo of the [Box Creek Escaped Prescribed Fire](#) taken on the afternoon of June, 4, 2012—approximately eight hours before the prescribed fire was declared an escape. (Photo: [Box Creek Prescribed Fire Escape FLA.](#))

Are you ready for an escape on Day 1?

Are you still vigilant two weeks later?

3. Lessons for Prescribed Fire Implementers

When all of the 2012 escaped prescribed fires are viewed together, several notable themes and concepts emerge. This chapter provides a few of the most significant themes that relate to folks who implement prescribed fire operations.

[Note: None of these themes are considered to be “the cause” any of the escapes. Each escape was a complex series of events, decisions and actions. We’re pointing these themes out because they showed up in several reports—not because they’re the “cause” of any escape.]

“We tried to burn the green pockets inside the line with aerial ignition multiple times but it would not burn.”

**Participant in the
Compartment 07 Escaped
Prescribed Fire FLA**

Do your objectives call for a mosaic pattern—including areas of unburned fuels inside of your burn unit?

- [The Lower North Fork Prescribed Fire Review](#) states that *“After Ignition on March 22, 2012, the area continued to experience mild weather. As the atmosphere became drier over the course of several days, fuel moisture in unburned fuels decreased. **This in combination with unburned fuel pockets and residual heat remaining on the Unit created circumstances conducive to increased combustion under the influence of high winds.**”* (Page 57.)
- [The Compartment 07 Escaped Prescribed Burn Escape FLA](#) notes that *“Some burn crew members indicated that they would have liked the burn to have been more complete, noting a couple of islands of unburned vegetation or “mosaic” areas.”* (Page 11.)



The [Compartment 07 Escaped Prescribed Fire](#), which became known as the Dad Fire, is pictured here on June, 17, 2012—the day the fire became a wildfire. (Photo: InciWeb.)

How do you deal with issues related to unburned fuels inside your project area?

Do you have a specific Mop-up Checklist or Mop-up Plan?

Do you use it in the field?

- [The Box Creek Prescribed Fire Escape FLA](#) mentions mop-up plans: “Consider a more explicit mop-up and patrol plan in the burn plan **that describes specific actions to be taken given forecast conditions**—rather than relying on intuition to guide mop-up and patrol actions.” (Page 16.)
- Similarly, [The Lower North Fork Prescribed Fire Review](#) includes specific mention of mop-up plans in the report’s Recommendations: “Strengthen mop-up standards **tied to fuel consumption and predicted weather** as a required element in prescribed fire plans.” (Page 2.)



Firefighters engaged in the thankless, dirty job of cold-trailing and mop-up during the 2012 fire season. Trinity Ridge Fire, Black Mountain Hotshots. (Photo: Kari Greer.)

Are your Mop-up Plans adaptable to burn results and forecasted weather?

How do you organize field-based documentation?

Do you use a Burn-Boss Checklist?

- [The Cottonwood Prescribed Burn Escape FLA](#) states that: “A **Burn Boss checklist** can be a useful tool for ‘dotting the i’s and crossing the t’s throughout project implementation (i.e., have all pre-burn considerations been met, is the smoke permit current, have the proper notifications been made, etc.).” (Page 16.)

[CHECK OUT THIS **BURN BOSS PACKET** USED BY THE USFS IN WASHINGTON STATE](#)

Provided Courtesy of: The Okanogan Wematchee National Forest
(INSERT YOUR UNIT'S LOGOS HERE)

Burn Boss Packet

Unit/Project Name: _____
Burn Boss: _____
Date: _____ Reviewed By: _____

Initial the following have been completed:

JHA known, understood local resources

Operational Briefing including LCES

Go/No Go Checklist utilized

Spot Forecast Requested & Returned

Mop Up & Patrol Plan Established

Resource Utilization/Cost Sheet

**Download it, customize it,
and share it with others!**

Special thanks to Jen Croft, U.S. Forest Service Fire Management Officer on the Tonasket Ranger District for sharing this Packet.

4. Lessons for Prescribed Fire Planners

The escaped prescribed fires in 2012—and the reviews that document the events and lessons associated with each—provide the people who plan prescribed fires with a number of lessons. The following are several of these lessons aimed at planners.

In six of the seven 2012 escaped prescribed fire reviews, “familiarity” with the fuels and the unit was discussed.

Whether it’s a new type of prescribed fire on your unit—stand-replacement aspen regeneration burns like [Box Creek](#) and [North Schell](#)—fuels that are dryer than they’ve ever been, or even if your burn-day overhead haven’t had time to scout the unit the day you drop the match, **being intimately familiar with the ground your burning—the unit boundaries, the fuel conditions—is critical.**



Test fire on the North Schell Prescribed Fire exhibiting “desired intensity.” (Photo: North Schell FLA.)

How familiar are you and your burn organization with your fuels and your unit?

In five of the seven 2012 prescribed fire escape reviews, the issue of funding and contingency resources surfaced.

The [Burn Unit 208 Escaped Prescribed Burn Review](#) notes that: *“It was recognized that there needs to be an easy way to compensate state resources for their efforts when we utilize them as part of our contingency planning. It is not clear as to whether or not there is a funding mechanism to reimburse state resources for support on Rx burns.”* (Page 4.)

Several reports (Cottonwood, North Schell, and Lower North Fork) explore the concepts of funds and contingency resources. The [Lower North Fork Prescribed Fire Review](#) states that those interviewed *“did not indicate there was any hesitancy to order additional resources due to funding concerns.”* (Page 46.)

Can you pay for your contingency resources?

This is a Critical Point to Remember:

If you need contingency resources, or resources for a potential escape, especially when the consequences of escape are significant, you should order them.

Funding issues can always be figured out later.

5. Lessons for Agency Administrators

While agency administrators may not have a direct hand in prescribed fire implementation or planning, they do have a critical role in ensuring projects have the potential to be successful.

The escaped prescribed fire reviews from 2012 contain a number of lessons relevant to this critical audience.

As an agency administrator, are you aware of the pressures you're putting on your prescribed fire organizations?

Several of the 2012 escaped prescribed fire reviews discuss the effects of pressure from line officers or agency administrators on prescribed fire operations.

The [North Schell Escaped Prescribed Fire FLA](#) notes that there are *"tensions and pressures that influenced decisions by the Line Officer, Fire and Fuels Staff, and the prescribed fire implementation team."* (Page 4.) A further reading of the North Schell FLA makes it clear that the Line Officer was under significant pressure from the public to complete the project: **"If we don't do this burn, the Agency will lose face with the community."**

[The Box Creek FLA](#) also discusses pressure to produce: *"Be aware of the influence that pressure to produce...can have on a work unit. Some pressure is self-imposed, some is system imposed, and some is manager/Line Officer imposed...The District as a whole has high expectations to produce prescribed fire work from the Line Officers down through the entire fire and fuels organization."* (Page 18.)

*"If we're in prescription,
we're burning."*

**District Ranger
North Schell Escaped Prescribed Fire FLA**



Incident Management Team briefing on the North Schell Fire. (Photo: InciWeb.)

**Be careful what you ask your prescribed fire organizations to do.
They'll find a way to do it, even if conditions are less than ideal.**

As an agency administrator, is your organization capable of effective communication, inside and outside of your organization?

- Five of the seven escaped prescribed fire reviews from 2012 specifically mention the importance of open communication—both internal and external—to overall project outcomes.

The Box Creek FLA indicates that: *"Key players maintained open and active communication to help ensure that nothing would be a surprise and that clear leader's intent was established on ignition and holding days. This level of communication contributed greatly to the confidence and success of the second entry."* (Page 18.)

In the [Cottonwood Escaped Prescribed Burn FLA](#), we see that communications external to the local organization can be critical: *“There should be open communication between the Forest and Regional Office Fuels Management staff about funding issues when it is anticipated that a prescribed burn may exceed planned costs.”* (Page 12.)



*The North Schell Fire in an undated photo.
(Photo: InciWeb.)*

With regard to communicating the occurrence of an escaped prescribed fire—again, with an outside audience—this vital lesson also emerged in the Cottonwood FLA: *“The Forest should clarify the notification process in the burn plan, including who is responsible for upward reporting, the time frame expectation, and appropriate communication chain.”* (Page 13.)

The importance of assumptions and fresh, outside perspectives—as well as communication—is nicely summed up in the [North Schell FLA](#): *“Communication is key. Don’t assume that everyone is on the same page, particularly when you may have some lingering questions or concerns. Take the time and discuss the project or situation in detail with key staff involved. If needed, involve a third party with a fresh set of eyes for a different perspective—even if on an informal level.”* (Page 23.)

6. A Commitment to Learning

Perhaps the most notable feature shared by each of the escaped prescribed fire reviews from 2012 is the fact that each one of them contains elements that are learning-focused. For 2012, five of the seven reports are Facilitated Learning Analyses. The remaining two reports have entire sections dedicated to “Lessons Learned.”

Each escaped prescribed fire review from 2012 includes an element that focuses on learning from the outcome.

It wasn’t that long ago, however, that prescribed fire escape reviews followed a rigid formula focused solely on the seven elements in the [2008 Prescribed Fire Implementation Guide](#) (page 29). These “seven questions,” as they became known, are valuable items to consider. In fact, six of the seven reviews in 2012 did, indeed, cover all—or most of—the seven questions. This demonstrates that policy requirements (as laid out in the 2008 Prescribed Fire Implementation Guide) and a learning-focused review effort are not mutually exclusive concepts; a dual focus on learning and policy compliance is possible.

This commitment to learning deserves to be recognized and commended. The lessons that emerged out of the escaped prescribed fires in 2012 are numerous. Without the participants’ commitment and support of the learning-focus, these lessons would not be available for others to benefit from.

7. Further Learning Opportunities

1. [Please give us your feedback on this summary!](#)

We're very interested to know what you think of this type of Summary. Give us your thoughts!

A screenshot of a feedback form titled "2012 Escaped Prescribed Fire Review Summary". The form includes a "Who are you?" section with radio button options: "Escaper", "Prescribed Fire Burn Boss", "Fuel Manager", "Fire Management Staff (PMO, AFMO, Station, etc.)", "Agency Administrator", and "Other". Below this is a text box asking "Will you be anything differently after reading this Summary?". Another text box asks "How can we improve the Summary of Escaped Prescribed Fires?". At the bottom is a "General Comments" text box.

(Click to open Feedback Form)

2. [Learning from Escaped Prescribed Fire Reviews: Six short videos](#)

[Researchers from the Rocky Mountain Research Station](#), with support from the [Joint Fire Science Program](#), held workshops to gather feedback on "Using Escaped Prescribed Fire Reviews to Improve Organizational Learning." Five two-day workshops were held in 2011 in: Portland, Ore; Denver, Colo.; Salt Lake City, Utah; Tucson, Ariz.; and Tallahassee, Fla. The six videos linked to here are a result of that effort.



(Click to open videos)

3. [Winter 2012 Issue of Two More Chains](#)

In the Winter 2012 Issue of [Two More Chains](#), you can read about prescribed fire escapes from the perspective of two veteran Burn Bosses.



(Click to open Two More Chains)

4. [Chances Are](#)

A two-minute automated slide show that highlights a number of common prescribed fire lessons.

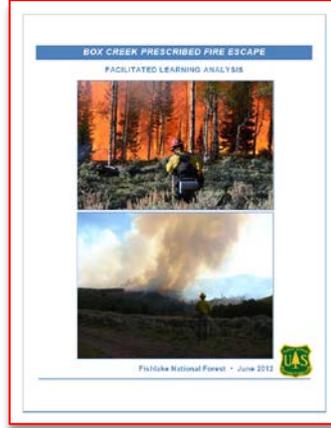


(Click to open *Chances Are* Presentation)

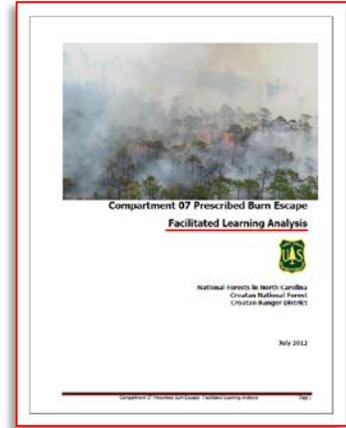
To read the reviews summarized in this document, visit:



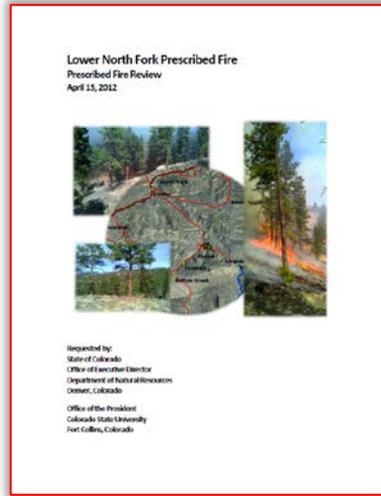
[Burn Unit 208 Escaped Prescribed Burn Review](#)



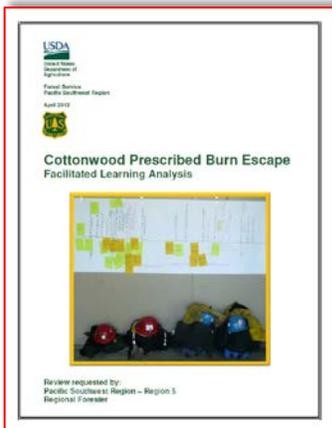
[Box Creek Prescribed Fire Escape Facilitated Learning Analysis](#)



[Compartment 07 Prescribed Burn Escape Facilitate Learning Analysis](#)



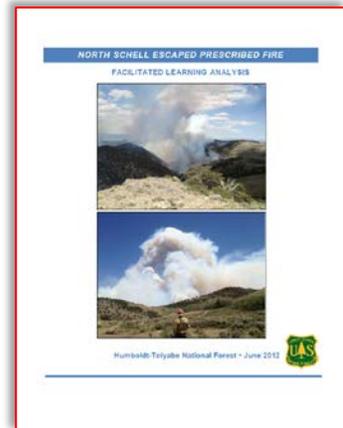
[Lower North Fork Prescribed Fire Review](#)



[Cottonwood Prescribed Burn Escape Facilitated Learning Analysis](#)



[Forest Health Piles Escape Facilitated Learning Analysis](#)



[North Schell Escaped Prescribed Fire Facilitated Learning Analysis](#)