

Fishlake National Forest

Twitchell Canyon Fire – P4FL8Q ... Initial BAER Report



Burned - Area Emergency Response

Region ... R4 / Intermountain

NFS Lands Affected ... 44,376 Acres

Forest ... 0408 / Fishlake NF

Severe Burns on NFS Lands ... 33 %

District ... D3 / Beaver RD

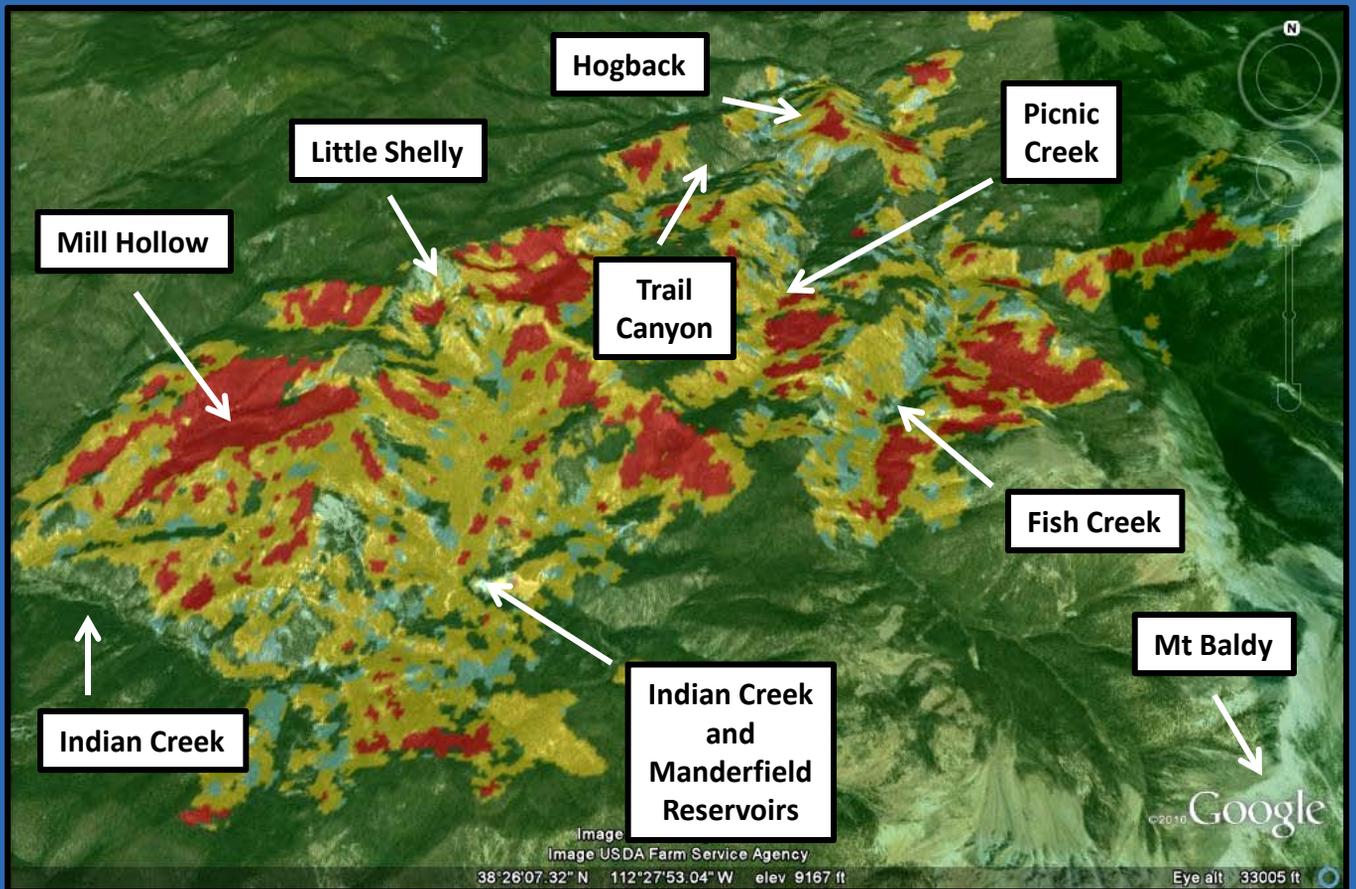
Date Fire Started ... 07/20/2010

Incident Size ... 44,874 Acres

Date Fire Contained ... 10/xx/2010

Fishlake National Forest

Twitchell Canyon Fire – P4FL8Q ... BARC Image / 09-13-2010



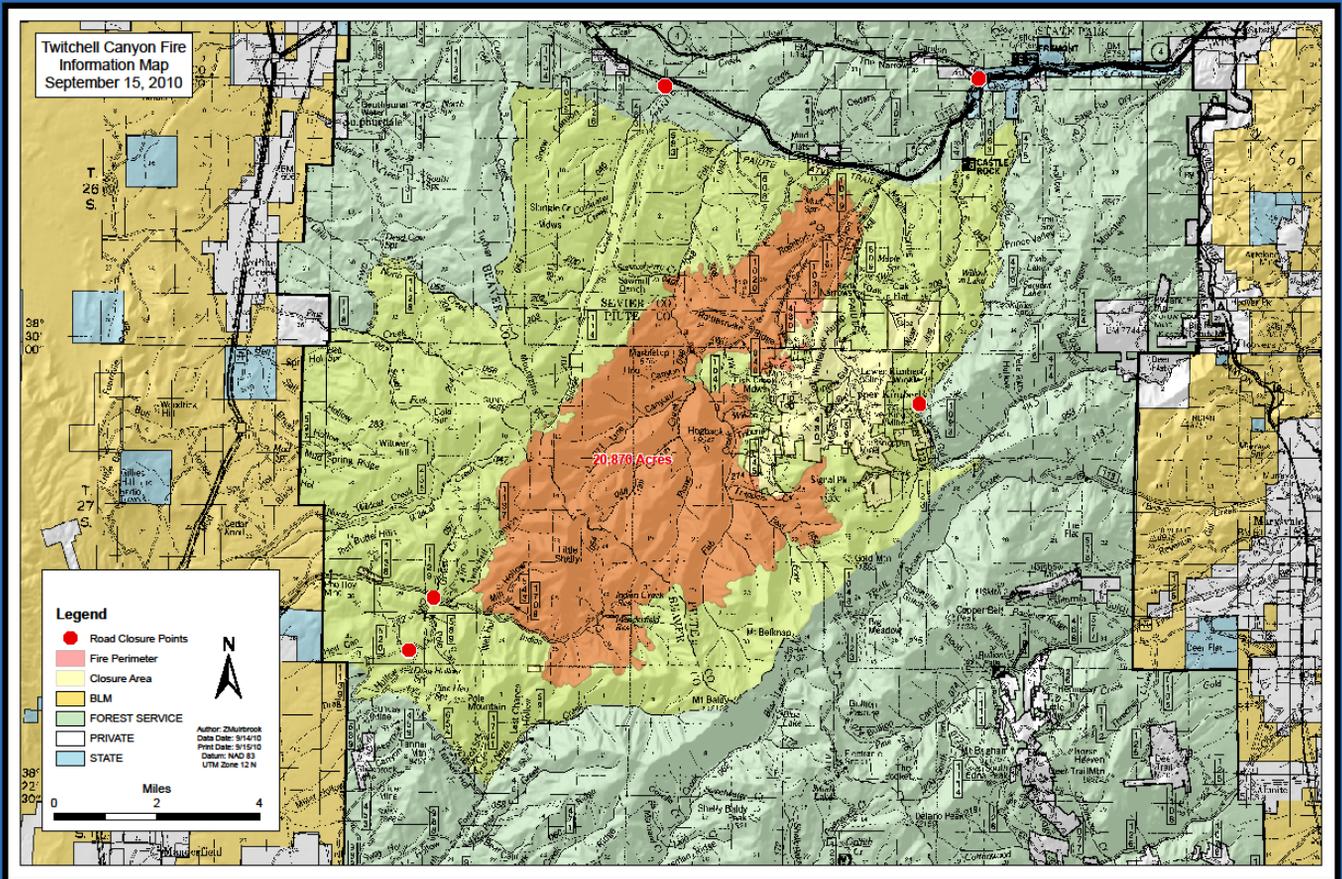
Burn Severity Map # 1 – 10,624 Acres

The best Burn Severity Maps are actually a combination of using BARC 256 Imagery, making observations about the fire while taking several reconnaissance flights over the burn - and, by having the BAER Team conduct field sampling activities -- looking for ... water-repellent ground conditions. Usually, it takes about 48 to 72 hours to make a really good Burn Severity Map – it just depends upon the size and complexity of the incident.

The task is very important because ... 1) it helps the BAER Team determine values-at-risk on NFS lands, 2) it allows the Team to quantify the amount of emergency treatments required to stabilize severely burned terrain and 3) it identifies fire-damaged areas that may be prone to debris flows, mudslides & flooding hazards .

Fishlake National Forest

Twitchell Canyon Fire – P4FL8Q / 09-15-2010



Public Information Map – 20,870 Acres

The purpose of this map was to provide up-to-date information to local residents, Forest Visitor's and our own employees about the status of the Twitchell Canyon Fire; this burn is located on the Beaver Ranger District of the Fishlake National Forest. Our map contains specific information ... including the current perimeter of the burn, areas which are temporarily closed for logistics or safety reasons, it identifies several road closures and security check points – and, it displays the various ownerships of private and public lands involved with the incident.

At this time, our decision remains to manage the burn for the following multiple objectives: 1) do NOT expose firefighters to safety hazards, 2) minimize negative impacts to private property, 3) promote ecological health, 4) expect the burn to be long-term – lasting > 60 days & 5) accept the risks involved with this decision.

Fishlake National Forest

Twitchell Canyon Fire – P4FL8Q ... Salt Lake Tribune



Information Article

by **Bob Mims**

(printed on 09-17-2010)

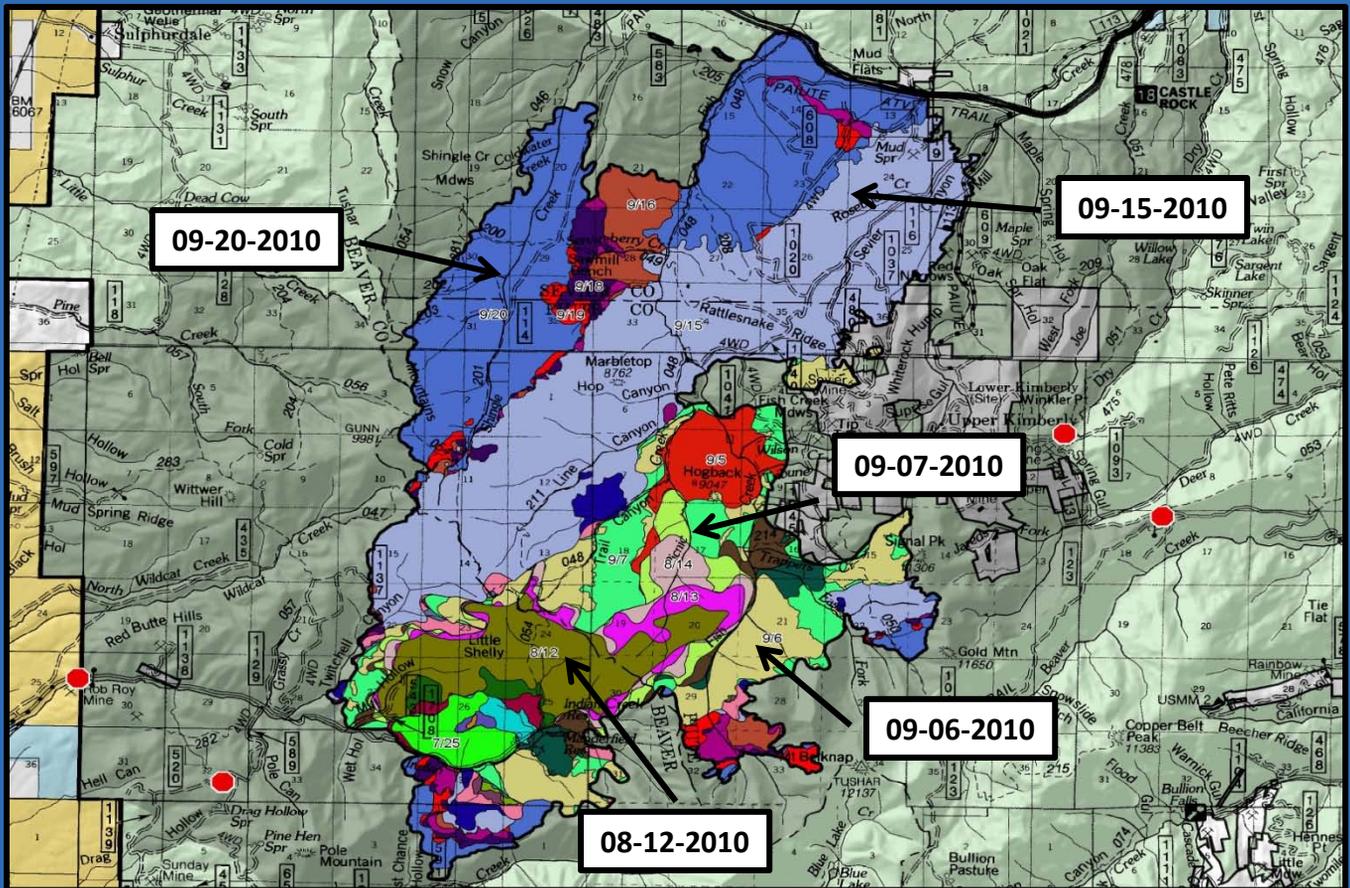
(**note**) - on Sunday / 09-19-2010
... the Fire Grew to 29,393 Acres

“ ... bad news came in 2’s for the field crews battling the Twitchell Canyon Fire. As of Friday, the south-central Utah blaze neared 22,000 acres – and, weather forecasters warned of gusty, hot and dry conditions through the weekend.

The National Weather Service’s **red flag** warning alerted much of the State that the potential for wildfires was extreme — not what about 320 firefighters battling the two-month-old, lightning-sparked Twitchell Canyon blaze wanted to hear. Meteorologist / Mark Struthwolf warned of steady, 15 - 20 mph winds with gusts of up to 30 mph for the Twitchell Canyon area. The fire’s remote, rugged and steep terrain already was posing enough challenges there for crews that had hoped to make progress over the weekend with fresh personnel, six water-bearing helicopters and two bulldozers joining the fight. Periodically, heavy smoke from the fire, which was burning in conifer and shrub lands, continued to restrict traffic along a 12 - mile stretch of Interstate - 70 located about 7 miles northeast of Manderfield Reservoir. ”

Fishlake National Forest

Twitchell Canyon Fire – P4FL8Q / 09-20-2010



Date	Growth	Cumulative
7/21/2010	7	7
7/22/2010	40	47
7/25/2010	518	565
7/31/2010	131	696
8/4/2010	136	832
8/6/2010	210	1,042
8/12/2010	1,998	3,040
8/13/2010	571	3,611
8/14/2010	552	4,162
8/16/2010	491	4,654
9/2/2010	441	5,094
9/4/2010	358	5,453
9/5/2010	923	6,376
9/6/2010	2,420	8,796
9/7/2010	1,743	10,539
9/8/2010	28	10,567
9/9/2010	31	10,598
9/10/2010	28	10,627
9/11/2010	38	10,664
9/12/2010	309	10,973
9/13/2010	320	11,293
9/15/2010	9,579	20,872
9/16/2010	866	21,738
9/17/2010	461	22,200
9/18/2010	589	22,788
9/19/2010	508	23,296
9/20/2010	6,754	30,051

Fire Progression Map – 30,051 Acres

Another form of information sharing commonly used by the Public Affairs Team ... is to distribute a Fire Progression Map to local residents, Forest Visitor's and fellow government employees. In this particular instance, our wildfire has been growing in size every couple of days since the ignition was started by a lightning strike on July 20th, 2010 at 1100 hours. According to the attached legend ... the fire was quite active on August 12th along with September 6th and 7th, September 15th – and, once again on September 20th.

Fishlake National Forest

Twitchell Canyon Fire – P4FL8Q / 09-20-2010

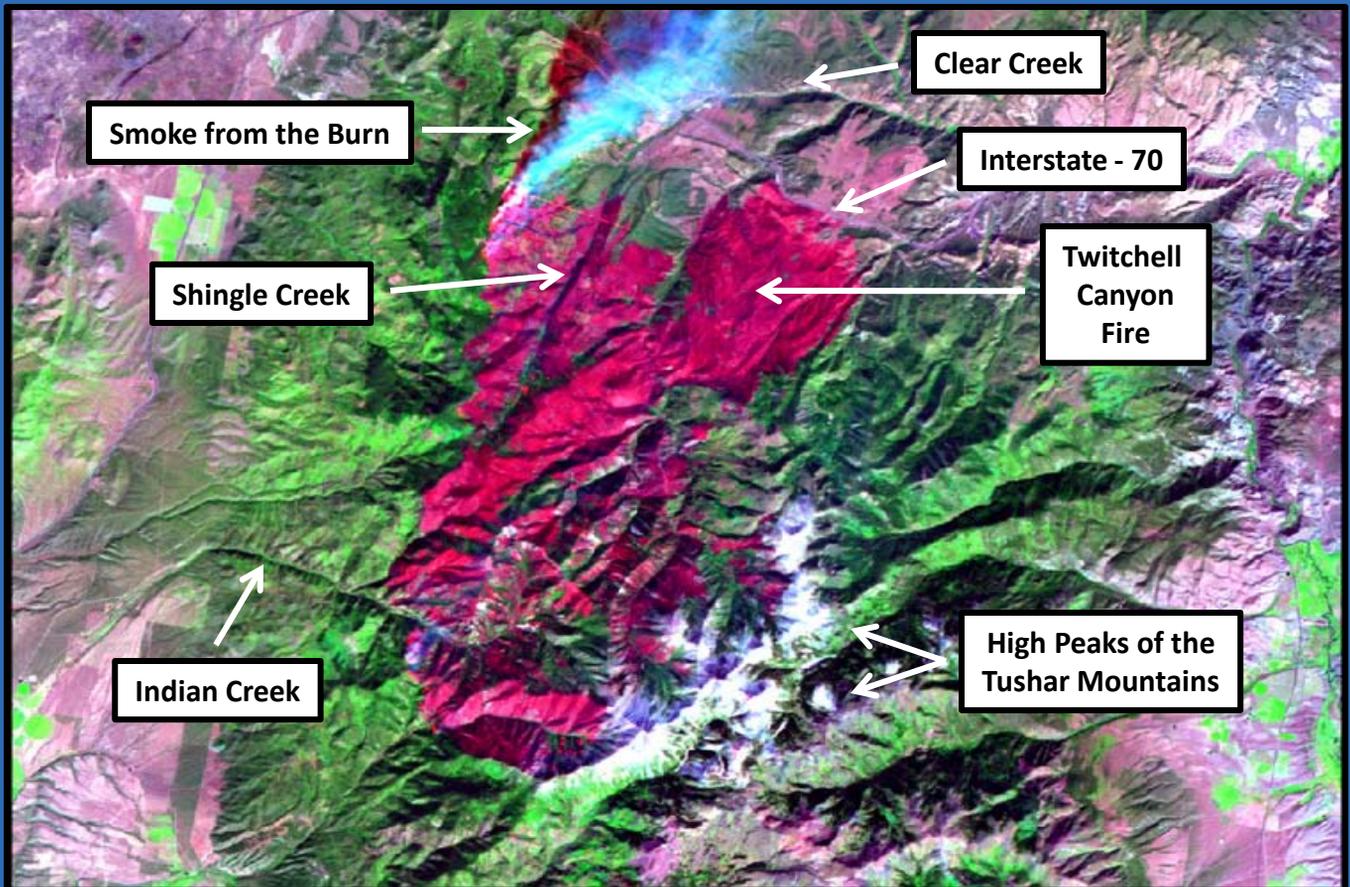


NASA Photograph – 33,071 Acres

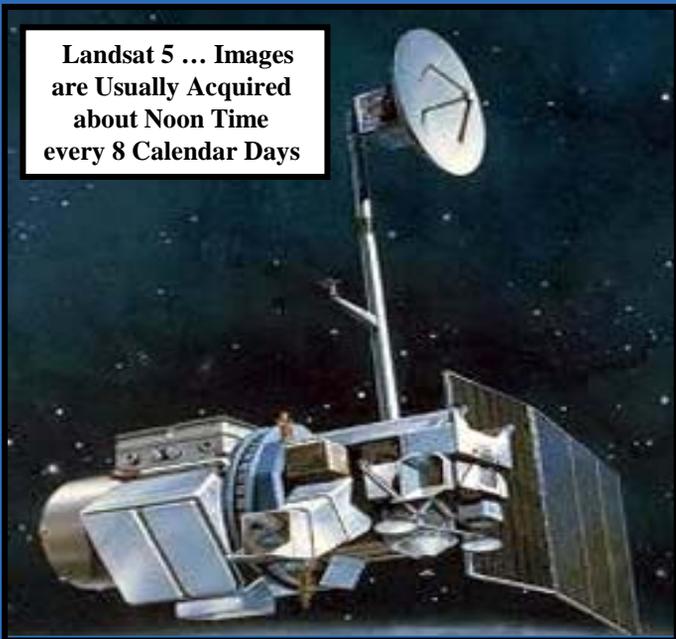
The Expedition 24 / Crew aboard the International Space Station photographed the Twitchell Canyon Fire in central Utah on September 20th. The fire near Utah's / Fishlake National Forest is reported to cover an area of approximately 13,383 hectares – or, about 33,071 acres. This detailed image shows smoke plumes generated by several fire spots close to the southwestern edge of the burned-area. The fire was started by a lightning strike on July 20th, 2010. Whereas many of the space station images of Earth look straight down (nadir), this photograph was exposed at an angle. The station was located over a point approximately 316 miles to the northeast, near the Colorado / Wyoming border, at the time the image was taken. Southwesterly winds continue to extend smoke plumes from the fire to the northeast.

Fishlake National Forest

Twitchell Canyon Fire – P4FL8Q / 09-21-2010



Landsat 5 ... Images
are Usually Acquired
about Noon Time
every 8 Calendar Days



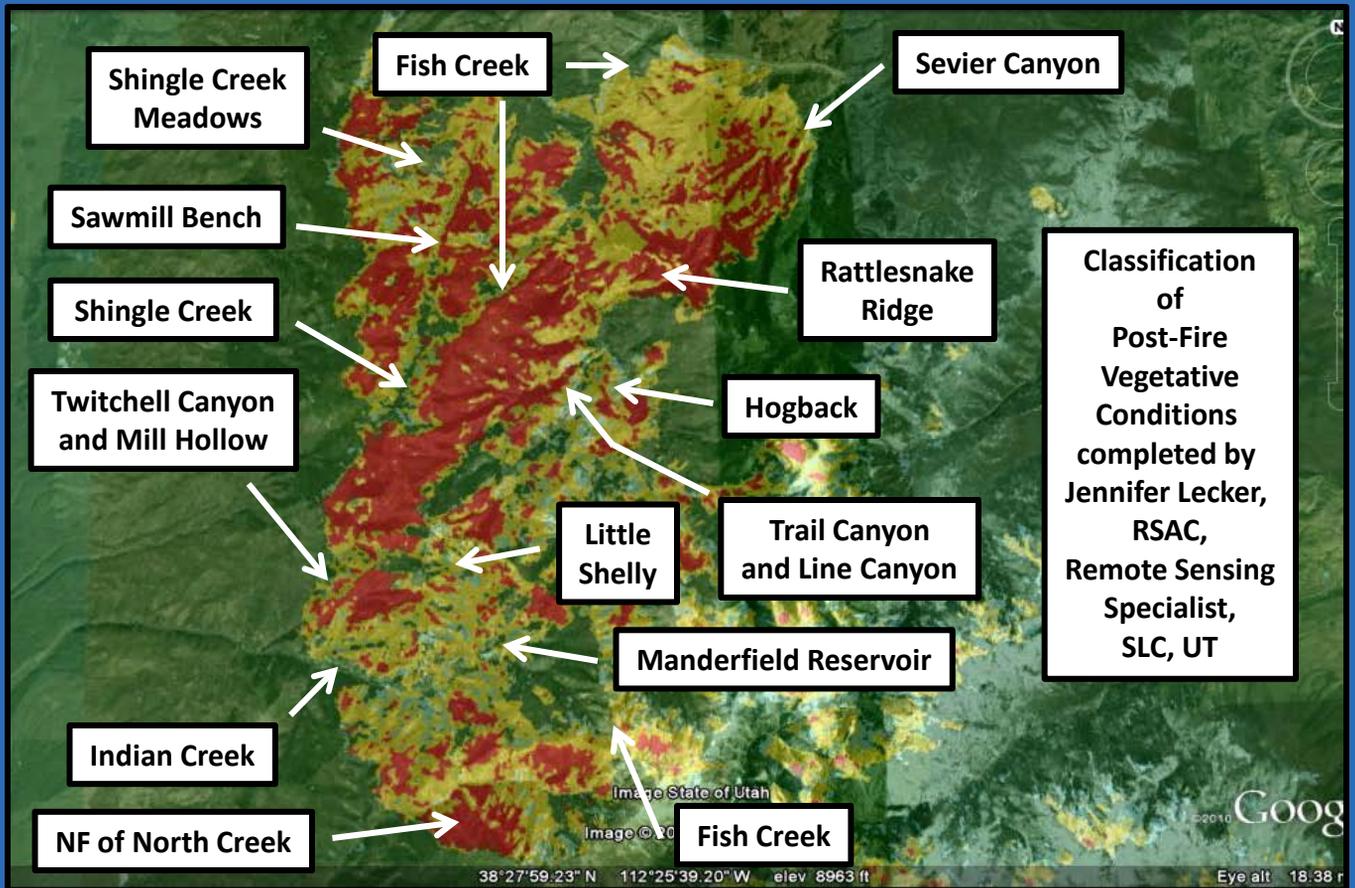
Landsat 5 / Satellite Image – 38,652 Acres

Initially, the EROS / Data Center of Sioux Falls, SD acquires and owns the Landsat 5 imagery; typically, several scenes are purchased by the WO / RSAC Staff and processed into a BARC Map for the requesting BAER Team.

A Burned Area Reflectance Classification (BARC) is a satellite-derived map of the post-fire vegetative condition. This product is used by the BAER Team as essential input to making a high quality Burn Severity Map.

Fishlake National Forest

Twitchell Canyon Fire – P4FL8Q ... BARC Image / 09-21-2010



Burn Severity Map # 2 – 38,652 Acres

BARC / Burn Severity Classes	Number of Acres	Percent of the Incident
Unburned	9,147	23.6 %
Low	5,055	13.0 %
Moderate	12,548	32.4 %
High	11,880	31.0 %
*** Total ***	38,652	100 %

Fishlake National Forest

Twitchell Canyon Fire – P4FL8Q / 09-30-2010



Fishlake National Forest

www.fs.fed.us/r4/fishlake
<http://incitweb.org/incident/2036/>

Team Whalen
Interagency Incident
Management Team

Mike Whalen,
Incident
Commander



Thursday, September 30, 2010 - 8:00 a.m.

- FOR IMMEDIATE RELEASE -

FOR MORE INFORMATION PLEASE CONTACT:

Annette Grijalva-Disert - Incident Information Officer (435) 527-3727

Incident Command Post is located at the Elsinore City Park at Elsinore, UT

E-mail: twitchell.cyn@gmail.com

F
I
R
E

U
P
D
A
T
E

Start date: 7/20/10 11:20	Cause: Lightning	Estimated Size: 42,427 acres	% Contained: 28	Total Personnel on Incident: 433
Injuries to date 29	Estimated Containment: TBD	Closures: Campgrounds, roads and trails closures around the fire area are implemented	# of 20-person hand crews: 14	Other committed resources 5-Helicopters 10-Engines

Twitchell Canyon Fire Update

Elsinore, UT – Firefighters made good progress on the southern flank of the Twitchell Canyon Fire yesterday. A dozer line was inserted from existing fireline toward Baldwin Ridge. Several Type I Hot Shot crews are working direct on the fireline to halt fire spread toward occupied areas along North Creek. Heavy-lift helicopters worked most of the day dropping upwards of 2,000 gallons of water per drop, cooling the fire front so firefighters can work. Heavy air tankers dropped retardant on Baldwin Ridge to halt fire spread.

There have been 29 reportable injuries since the start of the fire. Approximately one-third of them were minor bodily injuries, and the rest were illness, generally respiratory issues. No serious injuries resulting in lost time have occurred.

Today, additional resources are being added to the south end, including a structure protection group in the North Creek area. Residents will see increased fire traffic in the North Creek area for the next few days as suppression activity progresses. The burnout on the northwest corner near Cove Fort was successful and crews have been mopping up that area since yesterday. Containment lines on the west side of the fire are progressing from south to north as more resources arrive.

Due to the proximity of the Twitchell Canyon Fire, *forest roads in the area have been temporarily closed* to provide for firefighter and public safety as fire suppression operations continue.

The following roads are closed to provide for public and firefighter safety:

- Forest Road 119 Indian Creek Road at the west Forest boundary
- North Wildcat Creek Road (Forest Road 435) at the intersection with the Frontage Road
- Mud Spring Road also known as Brush Hollow Road (Forest Road 597) at the intersection with the Frontage Road
- The Frontage Road east of Interstate 15 at the Sulphurdale Exit
- The Frontage Road south of Interstate 70 at the Cove Fort Exit
- Shingle Creek Road (Forest Road 114) south of intersection with Highway 4/Clear Creek Road
- Forest Road 1026 and Forest Road 1027 south of Interstate 70 at Ranch Exit 7
- Forest Road 113 south of Interstate 70 at Fremont Indian State Park Exit 17
- Forest Road 113 at Upper Kimberly junction with Max Reid ATV Trail
- North Fork of North Creek (Forest Road 591) north of intersection with Forest Road 589 (Tanner Hollow)

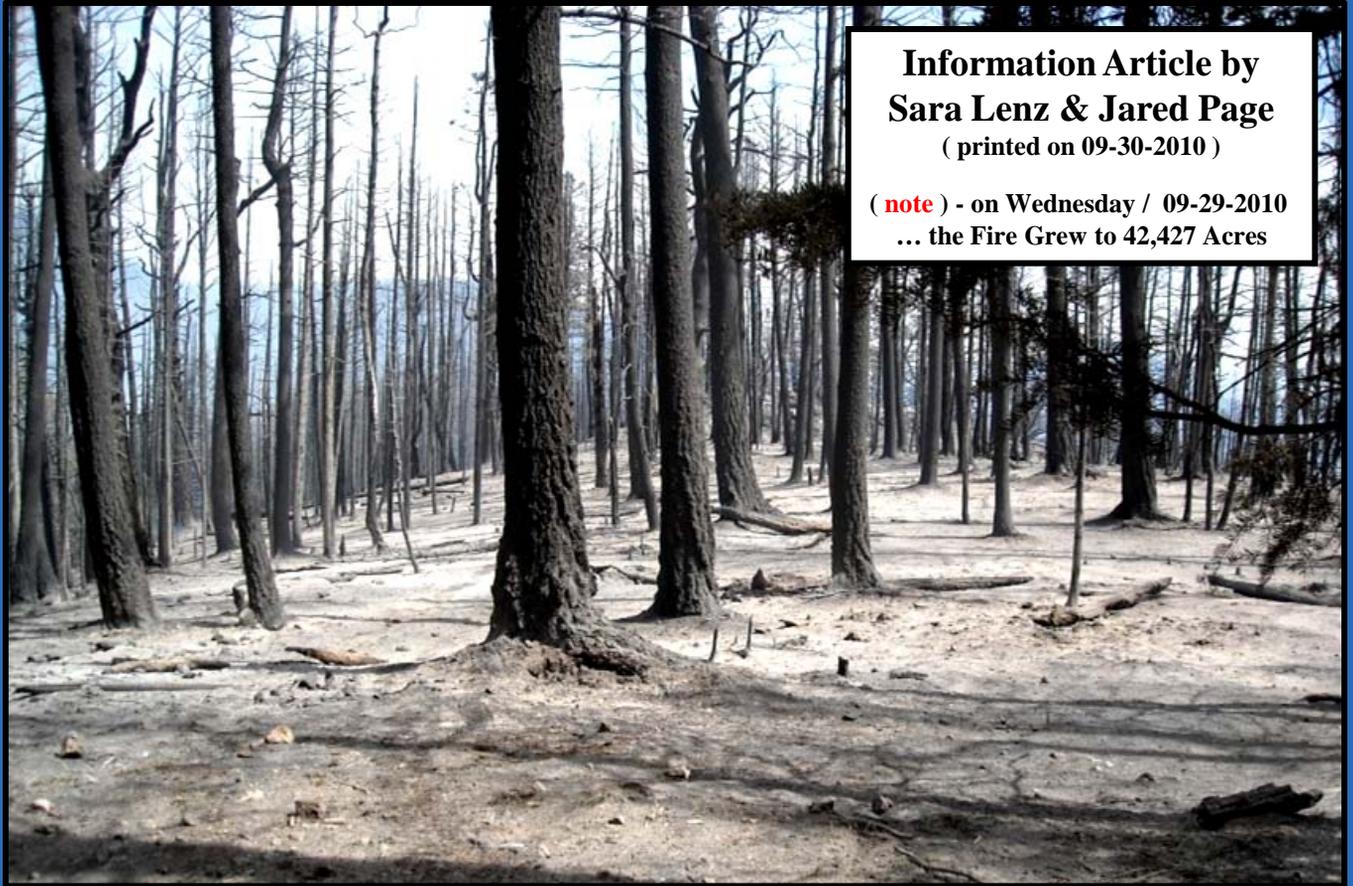
Castle Rock Campground remains under evacuation

For more information, maps, and pictures on this and other fires, please visit www.utahfireinfo.gov or www.incitweb.org.

###

Fishlake National Forest

Twitchell Canyon Fire – P4FL8Q ... Deseret News



**Information Article by
Sara Lenz & Jared Page**
(printed on 09-30-2010)

(**note**) - on Wednesday / 09-29-2010
... the Fire Grew to 42,427 Acres

“ ... this lightning - caused wildfire has been burning on the Fishlake National Forest since July 20th -- it now covers about 42,000 acres. As of 8 PM – Wednesday / September 29th ... it was 28 percent contained, said Joe Coldwell, Public Affairs Spokesman for the firefighting effort.

The fire is currently active in the area near North Creek and on the Tushar Mountain slope located on the west side of the fire, about 5 miles east of Sulphurdale officials said. Fire retardant and water are being dropped by air tankers and helicopters to keep the fire from moving onto private property. Thus far, 520 firefighters have battled the blaze. Coldwell said he expects the fire to continue burning until the area gets snow or a substantial rainfall event – and, he encourages drivers traveling through the area -- to be cautious.

I - 70 remained open Wednesday, though several roads, trails and campgrounds in the immediate area of the burn have been closed for safety reasons. ”

Fishlake National Forest

Twitchell Canyon Fire – P4FL8Q / 10-01-2010



Fishlake National Forest

www.fs.fed.us/r4/fishlake
<http://incitweb.org/incident/2036/>

Team Whalen
Interagency Incident
Management Team

Mike Whalen,
Incident
Commander



Friday, October 1, 2010 - 8:00 a.m.
- FOR IMMEDIATE RELEASE -

FOR MORE INFORMATION PLEASE CONTACT:
Annette Grijalva-Disert - Incident Information Officer (435) 527-3727
Incident Command Post is located at the Elsinore City Park at Elsinore, UT
E-mail: twitchell.cyn@gmail.com

F
I
R
E

U
P
D
A
T
E

Start date: 7/20/10 11:20	Cause: Lightning	Estimated Size: 44,446 acres	% Contained: 30	Total Personnel on Incident: 572
Injuries to date 29	Estimated Containment: TBD	Closures: Campgrounds, roads and trails closures around the fire area are implemented	# of 20-person hand crews: 14	Other committed resources 6-Helicopters 15-Engines

Twitchell Canyon Fire Update

RED FLAG WARNING

Elsinore, UT – An unstable air mass has moved into the fire area overnight bringing the threat of thunderstorms and gusty winds to the fire area. A Red Flag Warning has been issued by the National Weather Service today meaning that weather conditions are right for extreme fire behavior. Winds are expected to be light and variable through most of the day, exclusive of thunder cell activity.

Firefighters made good progress on the southern flank of the Twitchell Canyon Fire yesterday. A dozer line was inserted from existing fireline toward Baldwin Ridge. Six Type I Hot Shot crews are working direct on the fireline to halt fire spread toward occupied areas along North Creek. Heavy-lift helicopters worked most of the day dropping upwards of 2,000 gallons of water per drop, cooling the fire front so firefighters can work. Heavy air tankers dropped retardant on Baldwin Ridge to halt fire spread.

Pockets of fire continued to burn yesterday inside the fire line. Non-threatening fire activity popped up inside the fire area on the east side near Signal Peak, and crews continue to monitor fire behavior on the east side.

Today the air operations will move from the Richfield Airport to the Beaver Airport to be closer to the area of operation. Seven helicopters will be working out of the Beaver Airport.

Some forest roads in the area have been temporarily closed to provide for firefighter and public safety as fire suppression operations continue.

The following roads are closed to provide for public and firefighter safety:

- Forest Road 119 Indian Creek Road at the west Forest boundary
- North Wildcat Creek Road (Forest Road 435) at the intersection with the Frontage Road
- Mud Spring Road also known as Brush Hollow Road (Forest Road 597) at the intersection with the Frontage Road
- The Frontage Road east of Interstate 15 at the Sulphurdale Exit
- The Frontage Road south of Interstate 70 at the Cove Fort Exit
- Shingle Creek Road (Forest Road 114) south of intersection with Highway 4/Clear Creek Road
- Forest Road 1026 and Forest Road 1027 south of Interstate 70 at Ranch Exit 7
- Forest Road 113 south of Interstate 70 at Fremont Indian State Park Exit 17
- Forest Road 113 at Upper Kimberly junction with Max Reid ATV Trail
- North Fork of North Creek (Forest Road 591) north of intersection with Forest Road 589 (Tanner Hollow)

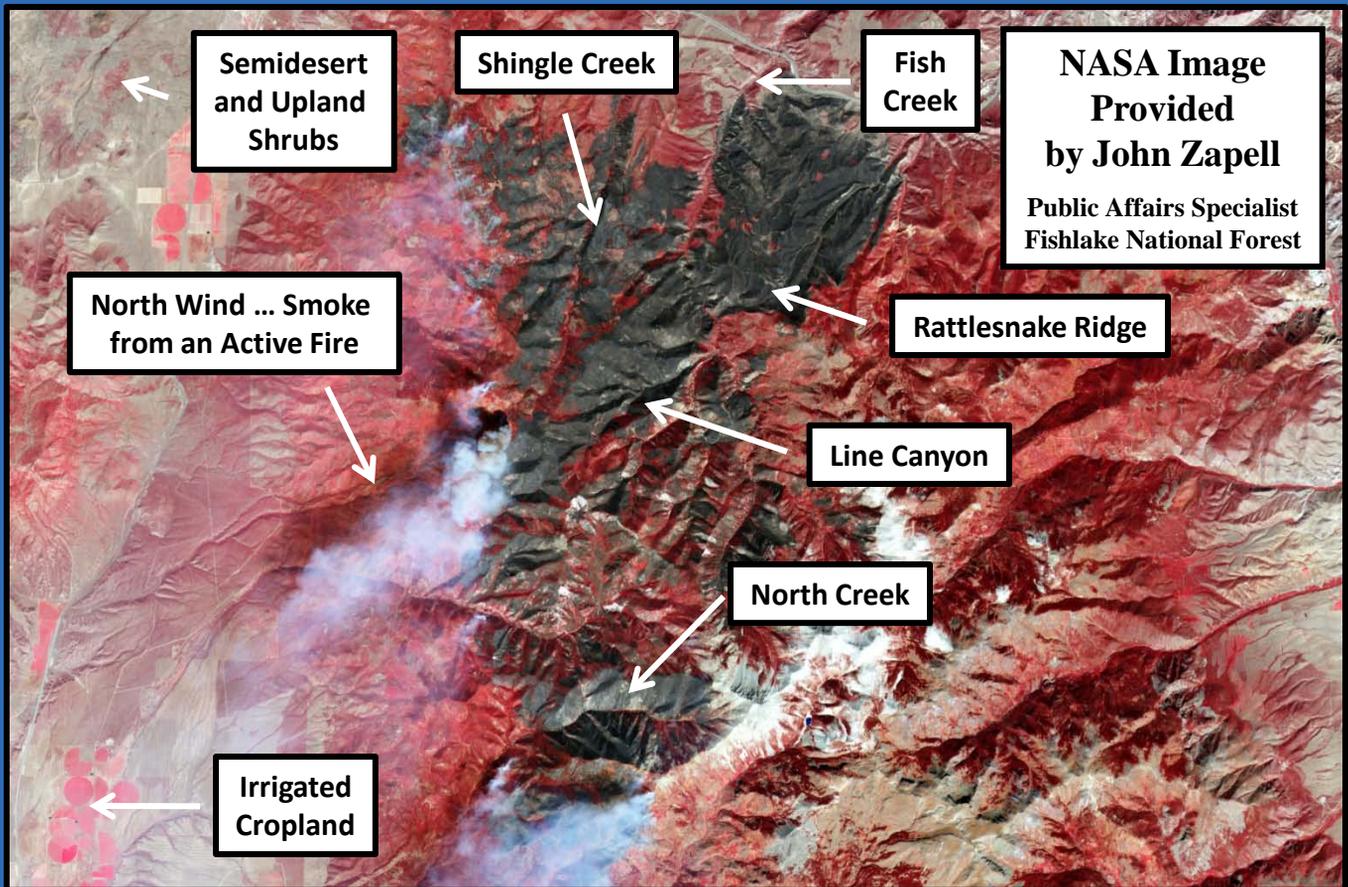
Castle Rock Campground remains under evacuation

For more information, maps, and pictures on this and other fires, please visit www.utahfireinfo.gov or www.incitweb.org.

###

Fishlake National Forest

Twitchell Canyon Fire – P4FL8Q / 10-01-2010

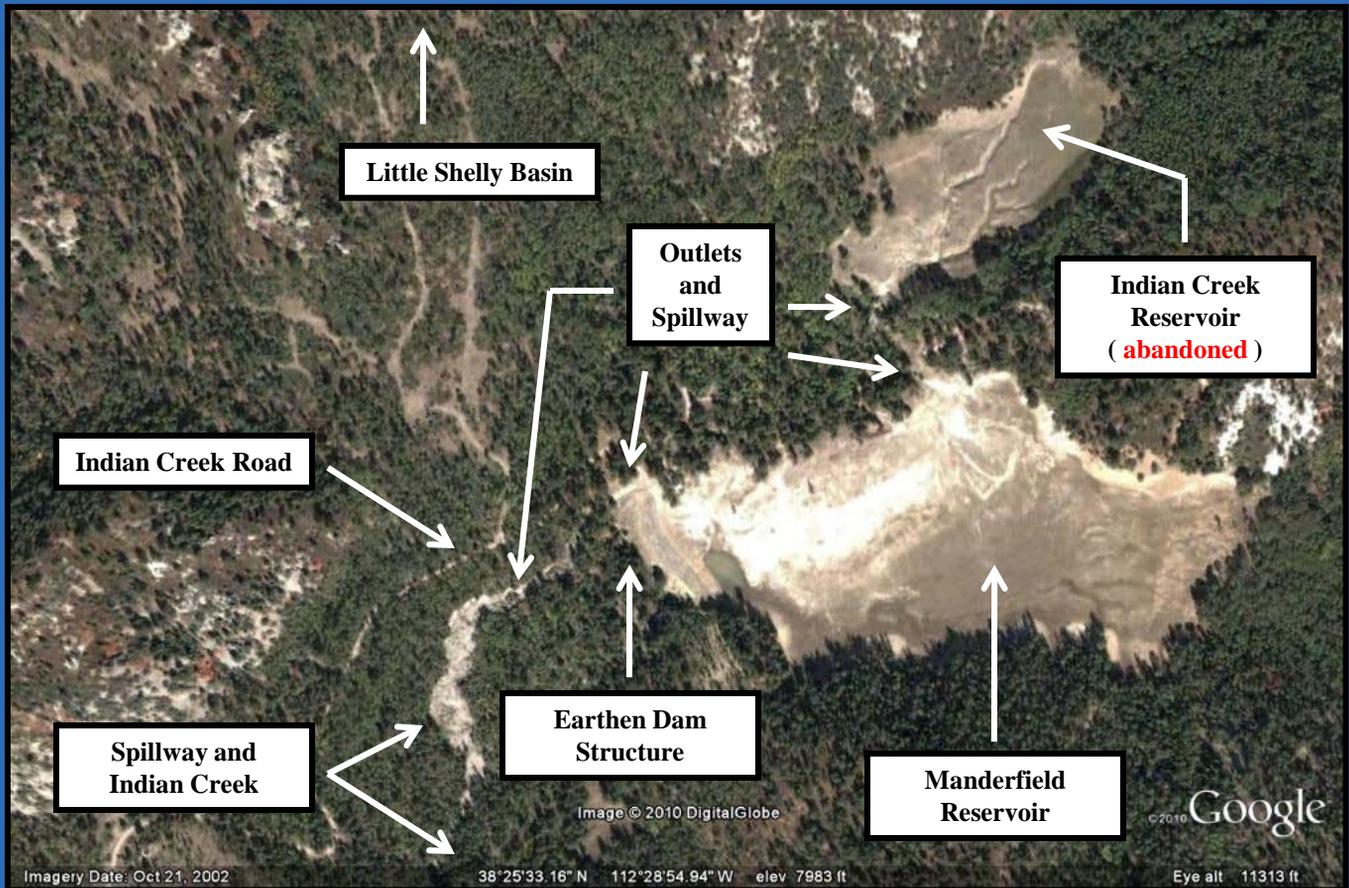


A lightning strike on July 20th, 2010, started the Twitchell Canyon Fire in Utah. More than 2 months later, the fire continued to burn and had consumed 44,000 acres of the Fishlake National Forest. Weather conditions have continued to be conducive to burning with low humidity, high winds and thunderstorm activity -- all of which increase the hazard of the fire. Over 500 fire fighters were working to establish fire breaks and to fight the flames, which were 30 % contained on October 1st according to the InciWeb / Incident Information System. Active fire fronts were being attacked with large aircraft and helicopters dropping fire retardant.

This image was acquired by the ASTER instrument on NASA's / Terra Satellite during the morning of September 29th, 2010. This false - color image uses near infrared light to make vegetation appear red in this treatment. Bare land appears in shades of tan and pale grey, burned-areas are charcoal toned and water appears blue. False - color imagery such as this is particularly good at showing the extent and severity of wildfires: the deep grey tones show where fires were especially intense.

Fishlake National Forest

Twitchell Canyon Fire – P4FL8Q / 10-02-2010



Opportunity / Values-at-Risk

What is the functionality of the abandoned Indian Creek Reservoir ... can this site be used as a temporary catch basin for surface runoff water and assorted debris ?

Does the Indian Creek site need to have its outlet or spillway cleaned and / or repaired to prevent unplanned or uncontrolled flows of water from flushing down into Indian Creek – damaging the existing road, its meadow areas and the Class 3 / Fisheries ?

If the Indian Creek site overtops ... how will that affect the quantity and quality of water contained in the nearby Manderfield Reservoir ?

Much of the upper Indian Creek subwatershed has been impacted by Moderate to High / Severity Burns ... will broadcast seeding, aerial mulching and using straw wattles to trap sediment near the Manderfield site protect the reservoir ?

Fishlake National Forest

Twitchell Canyon Fire – P4FL8Q / 10-04-2010

BAER Team Members

(large incidents)

Soil Scientist,
Hydrologist,
Ecologist,
Botanist,
Fisheries Biologist,
Wildlife Biologist,
Engineer - Roads,
Timber Staff,
Geologist,
Helitack,
Range Specialist,
GIS Staff,
Archeologist,
FS / Research,
NRCS / BLM,
State of Utah,
Contracting Officer
and
District Staff



Forest Service / BAER Team

For every incident of wildfire that exceeds 500 acres in size, the Forest Service assembles a group of Resource Specialist's to evaluate the impacts of the burn; these individuals are collectively known as the Burned-Area Emergency Response (**BAER**) Team. The Fishlake National Forest / BAER Team has the specific responsibility of 1) assessing on-the-ground conditions , 2) identifying emergency situations caused by the fire disturbance, 3) locating potential flood source sites occurring within the perimeter of the burn and 4) recommending land, channel, road and trail along with ecosystem management based treatments. The objective of implementing emergency treatments is to ... initiate “ **prompt action** ” for the immediate stabilization of fire-damaged terrain.

Fishlake National Forest

Twitchell Canyon Fire – P4FL8Q / 10-04-2010

F
A
C
T
S
H
E
E
T



Monday, October 4th, 2010 - 10:00 a.m.

FOR IMMEDIATE RELEASE -

FOR MORE INFORMATION PLEASE CONTACT:

John Calabrese - Incident Information Officer (435) 438-0919
Incident Command Post is located at North I-70 Interchange, Beaver, UT
E-mail: twitchell.cyn@gmail.com

Start date: 7/20/10 11:20	Cause: Lightning	Estimated Size: 45,126 acres	% Contained: 65	# Of Firefighters: 579
Injuries to date 31	Estimated Containment: TBD	Closures: Campgrounds, roads and trails closures around the fire area are implemented	# of 20-person hand crews: 11	# Of helicopters: 3 - Heavy-lift 1 - Medium-lift 2 - Light-lift Total Helicopters: 6

Twitchell Canyon Fire Update

Beaver, UT – Operations continue in Division D, the south end of the fire nearest to North Creek subdivisions. Six hotshot crews, assisted with air support are working to build direct handline against the fire's edge. Containment lines on this division are expected to be finished in the next one to two days if weather conditions remain favorable. A structure protection group continues to work in the North Creek area as a contingency force. No new injuries were reported on Sunday.

Light rain fell on many parts of the fire yesterday, raising relative humidity and lowering temperatures and making direct line construction very effective. Higher elevations in the Tushar Mountains received light snow in the early morning hours. Rain showers are likely today through Tuesday.

Gage's National Incident Management Organization (NIMO) Team took command of the fire at 6:00 a.m. this morning. The Incident Command Post (ICP) has moved and is now established on the north end of Beaver to be closer to ongoing operations. The helibase operations will run from Beaver Airport and airtanker support will continue as needed from Cedar City.

Shingle Creek Road 114 to Forest Road 583 leading to Paiute Trail 205, and Mud Flat road, are now open. Roads leading south from Paiute Trail 205 and Mud Flat Road are still closed due to ongoing fire operations. Shingle Creek road south from the Forest Road 583 intersection remains closed.

Temporary road closures are still in effect to provide for public and firefighter safety as follows:

- Forest Road 119 Indian Creek Road at the west Forest boundary
- North Wildcat Creek Road (Forest Road 435) at the intersection with the Frontage Road
- The Frontage Road east of Interstate 15 at the Sulfurdale Exit
- The Frontage Road south of Interstate 70 at the Cove Fort Exit
- Shingle Creek Road (Forest Road 114) south of intersection with Forest Road 583.
- Forest Road 1026 and Forest Road 1027 south of Interstate 70 at Ranch Exit 7
- North Fork of North Creek (Forest Road 591) north of intersection with Forest Road 589 (Tanner Hollow)

For more information, maps, and pictures on this and other fires, please visit www.utahfireinfo.gov or www.inciweb.org.

Fishlake National Forest

Twitchell Canyon Fire – P4FL8Q / 10-06-2010



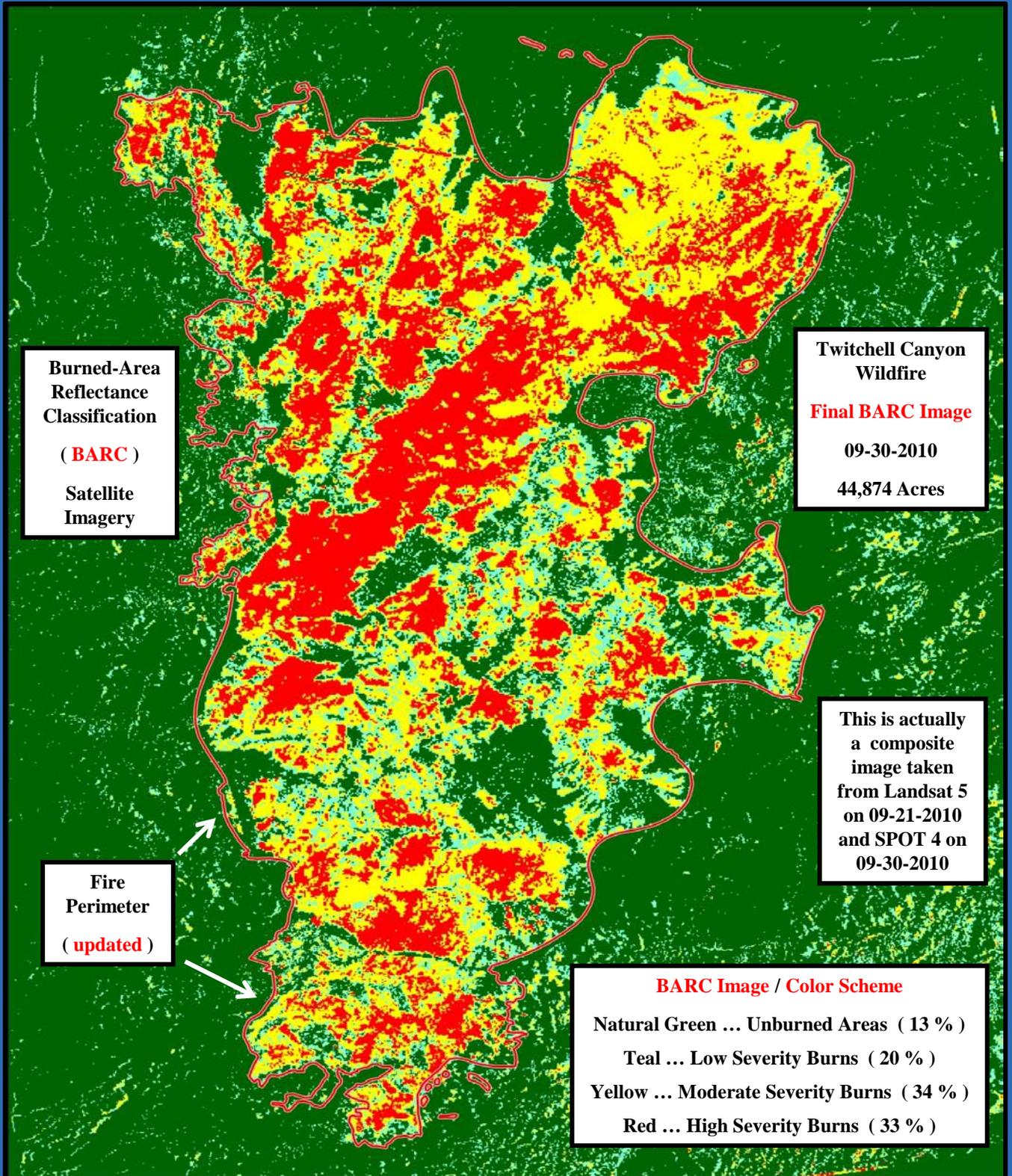
BAER Team Meeting – Richfield, UT

Adam Solt – Hydrologist
Rich Jaros – Soil Scientist
Bob Campbell – Ecologist
Steve Flinders – Wildlife
Dave Tait – Botanist
Gary Bezzant – State of Utah
Mike Smith – Soil Scientist
Doug Robison – Assistant
Environmental Coordinator
Mark Madsen – Botanist

Brooke Shakespeare – Hydrologist
Amy Barker – District Ranger
Pete Haraden – Hydrologist
Dan Child – Engineering
Reggie Swenson – Range
Jenneka Knight – GIS
Robert Lopez – Fire
Tyler Monroe – Fire
Jim Whelan – Fisheries

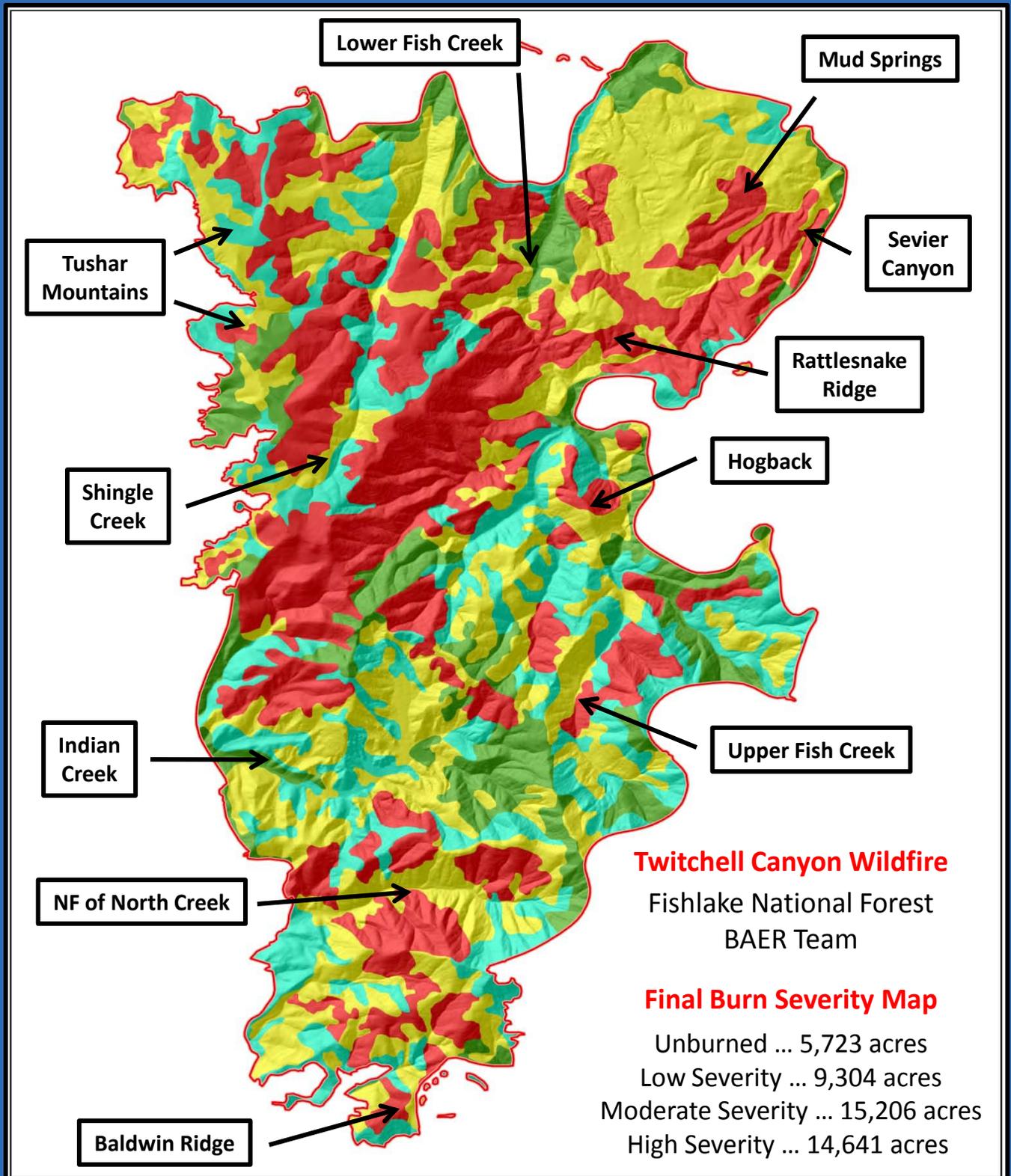
Fishlake National Forest

Twitchell Canyon Fire – P4FL8Q / 10-08-2010



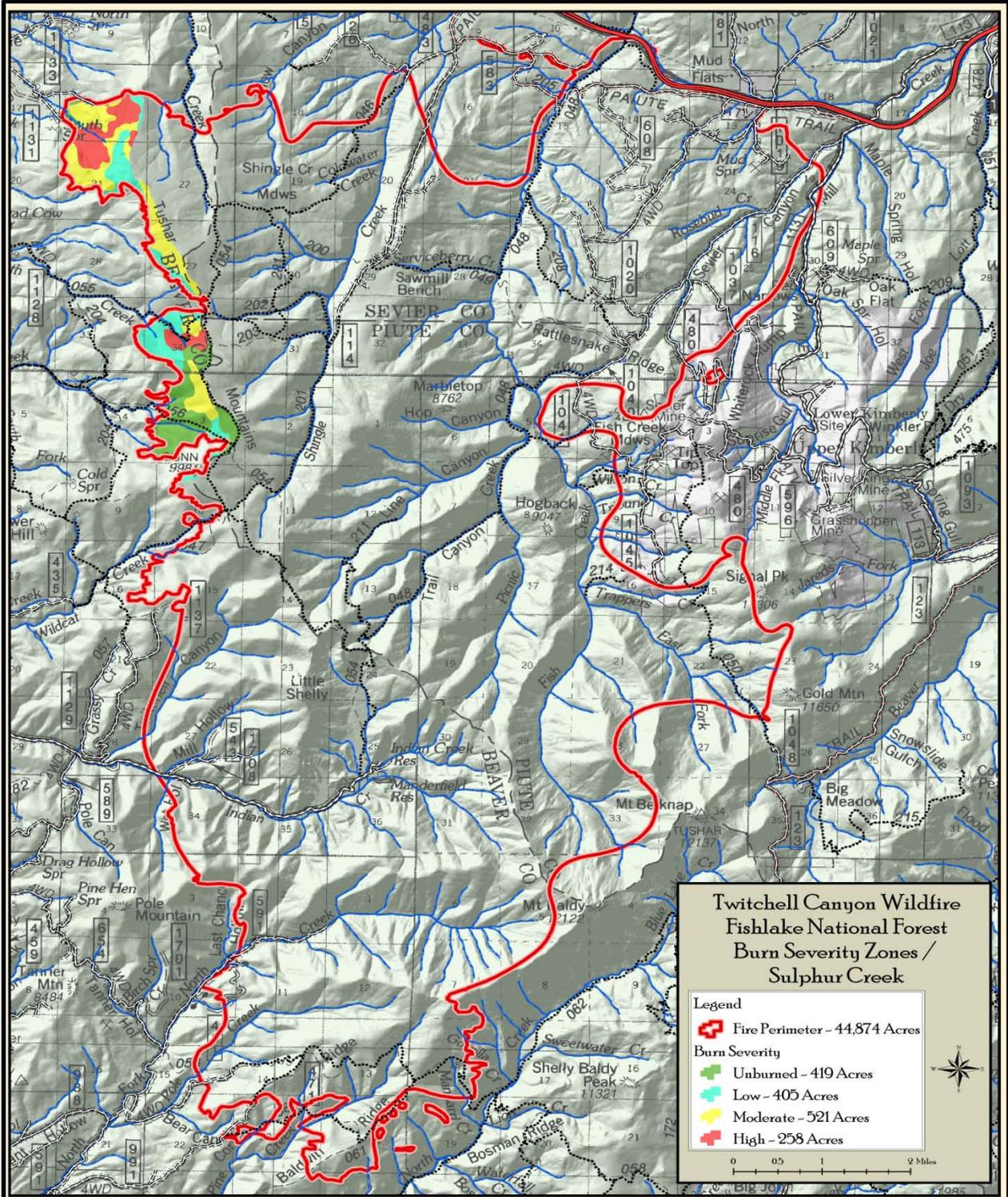
Fishlake National Forest

Twitchell Canyon Fire – P4FL8Q / 10-08-2010



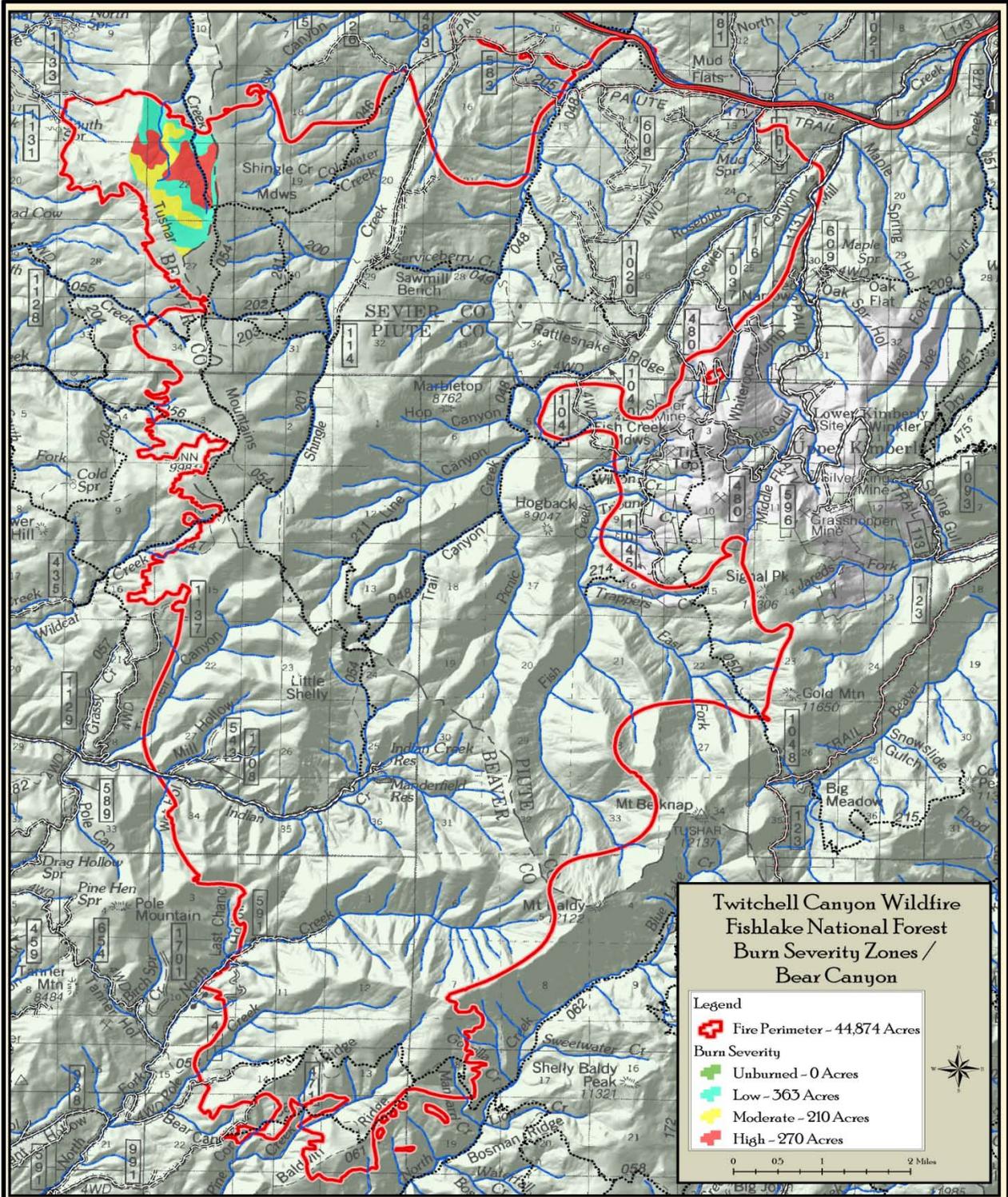
Fishlake National Forest

Twitchell Canyon Fire – P4FL8Q / 10-10-2010



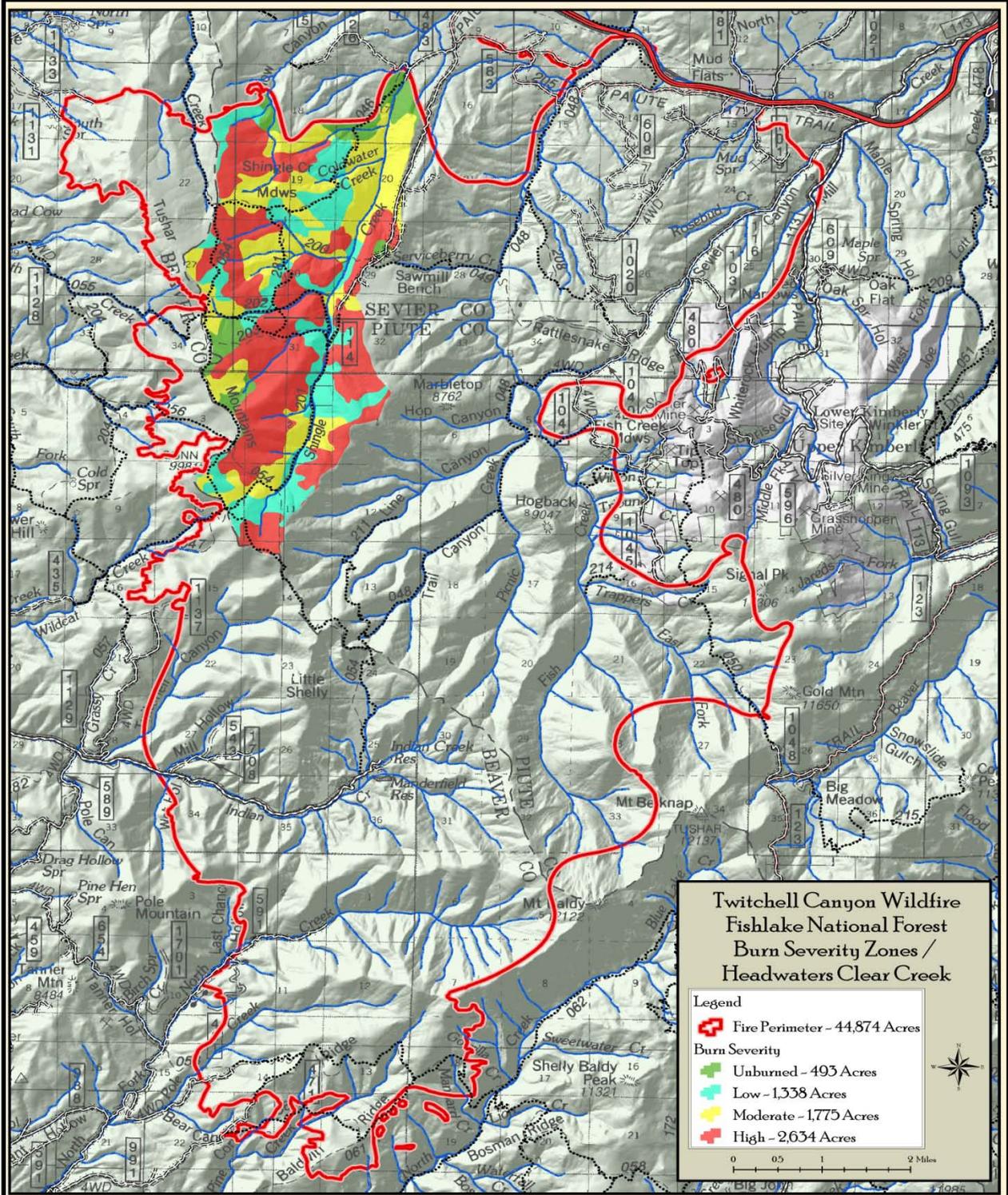
Fishlake National Forest

Twitchell Canyon Fire – P4FL8Q / 10-10-2010



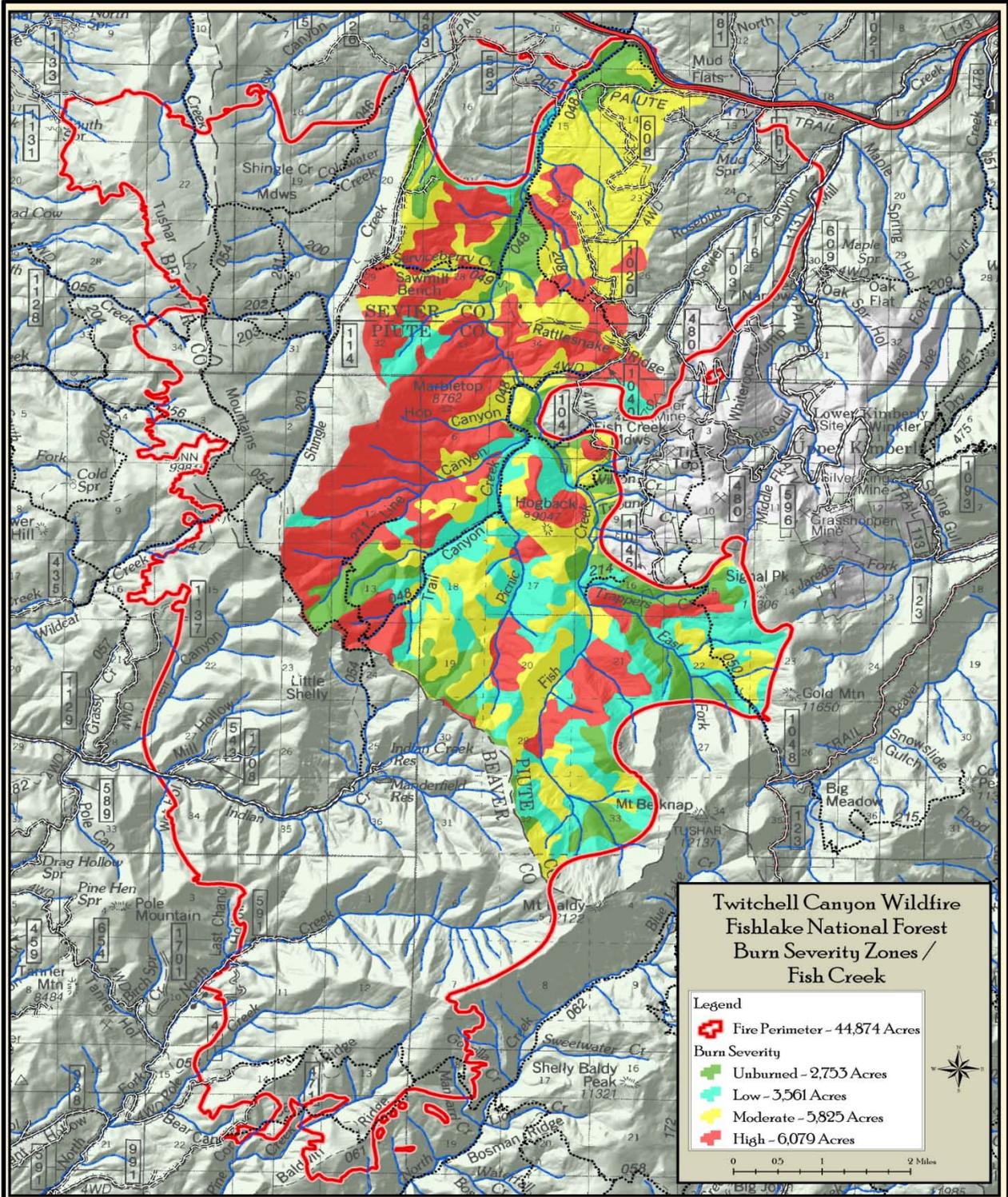
Fishlake National Forest

Twitchell Canyon Fire – P4FL8Q / 10-10-2010



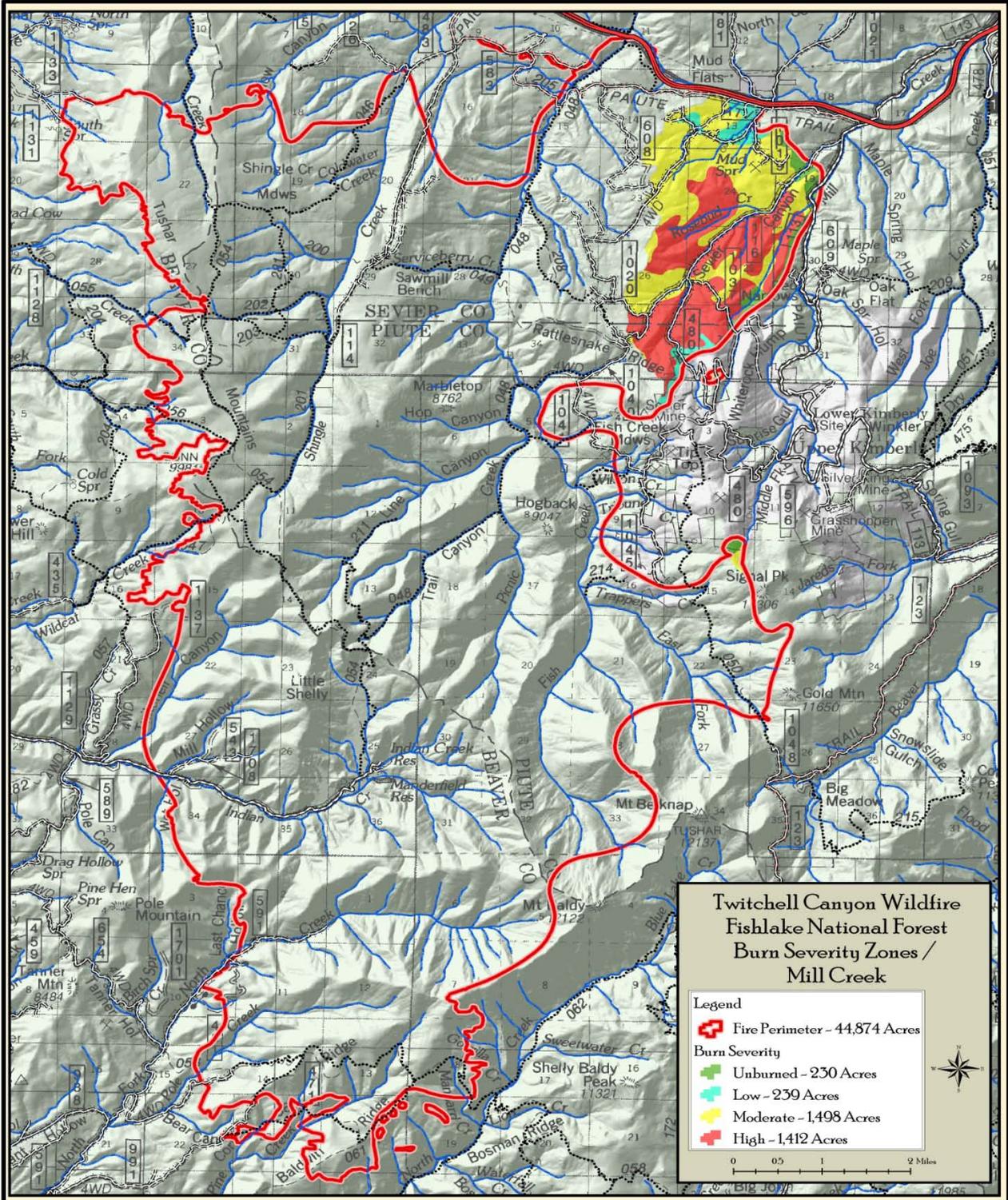
Fishlake National Forest

Twitchell Canyon Fire – P4FL8Q / 10-10-2010



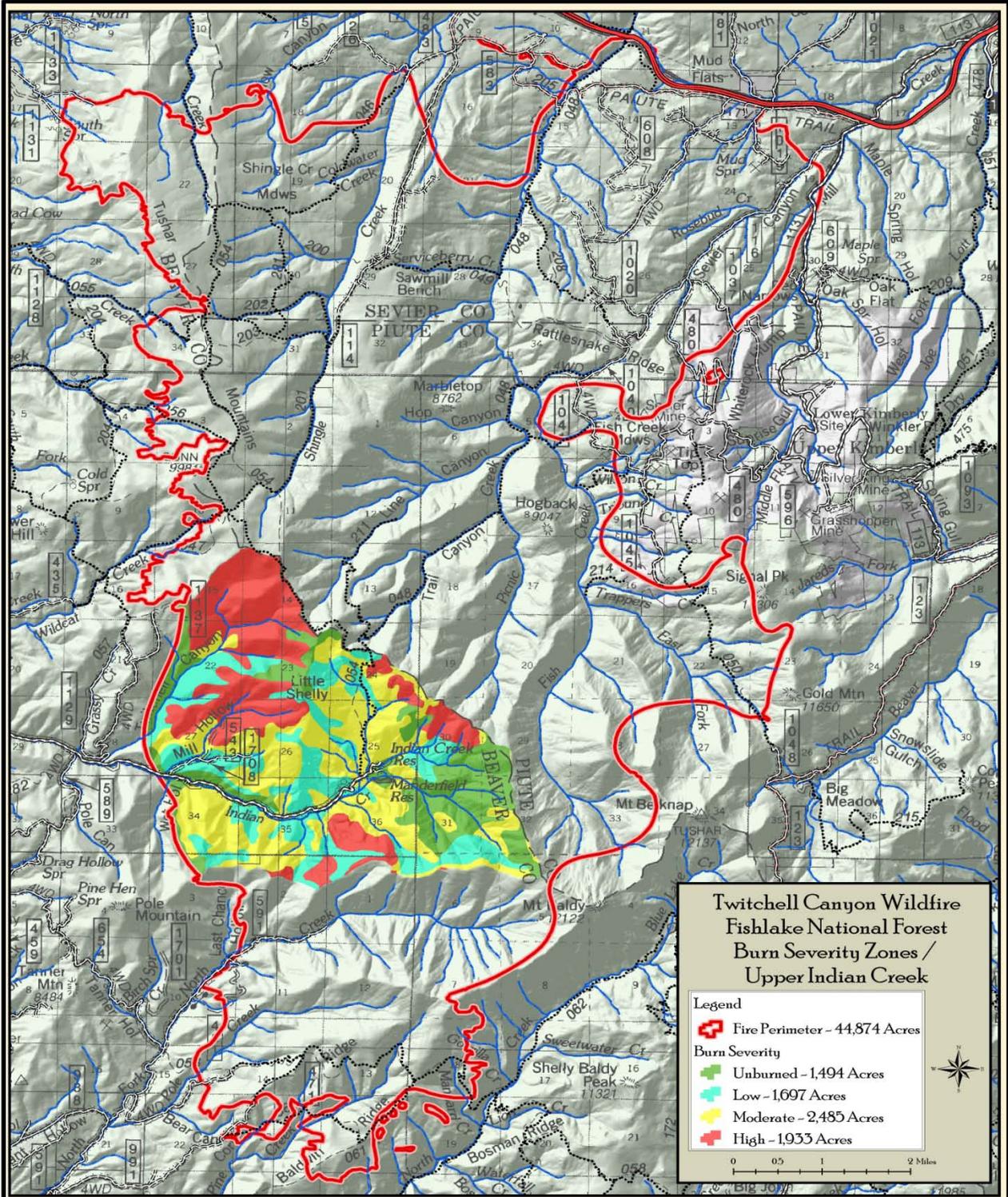
Fishlake National Forest

Twitchell Canyon Fire – P4FL8Q / 10-10-2010



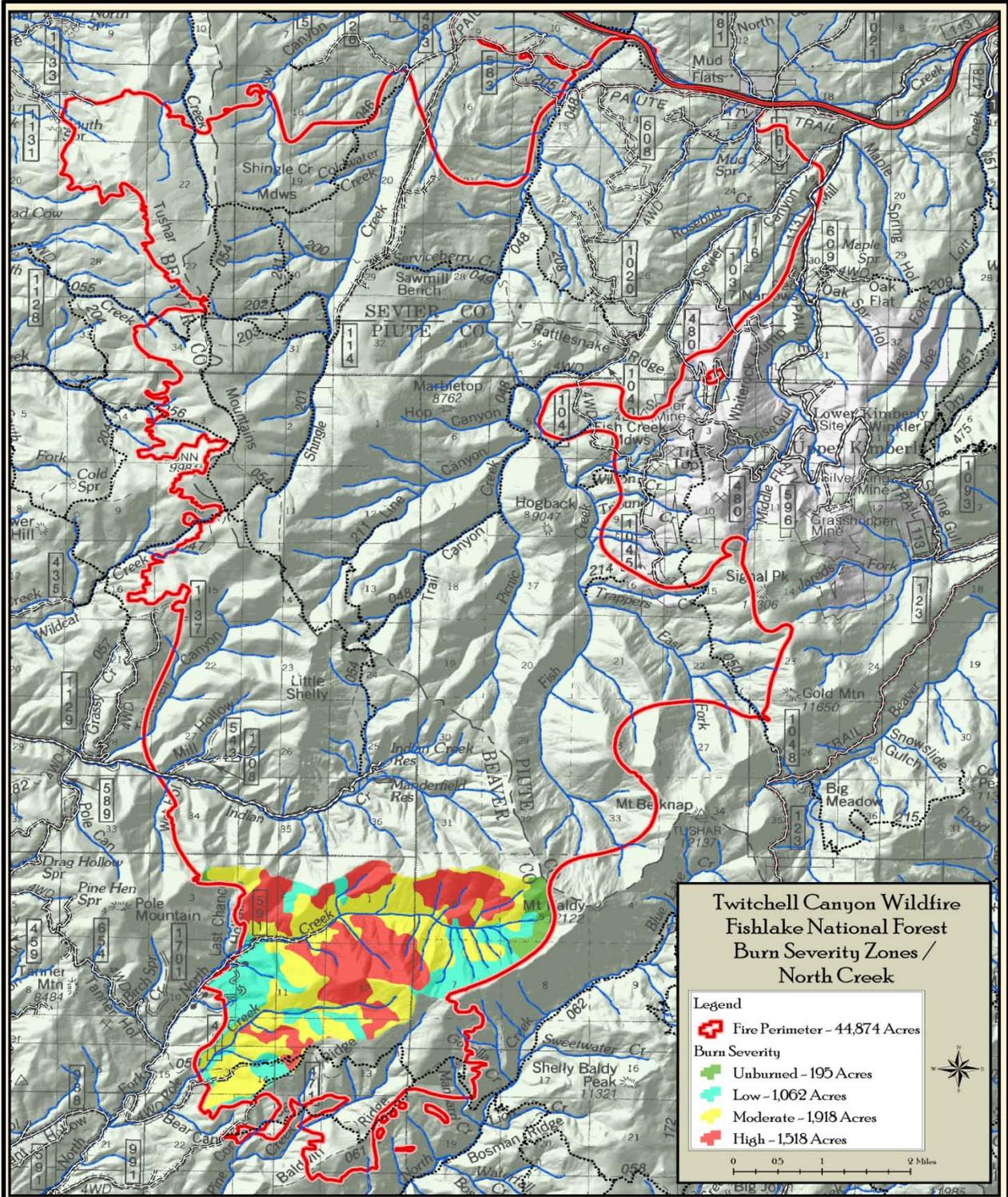
Fishlake National Forest

Twitchell Canyon Fire – P4FL8Q / 10-10-2010



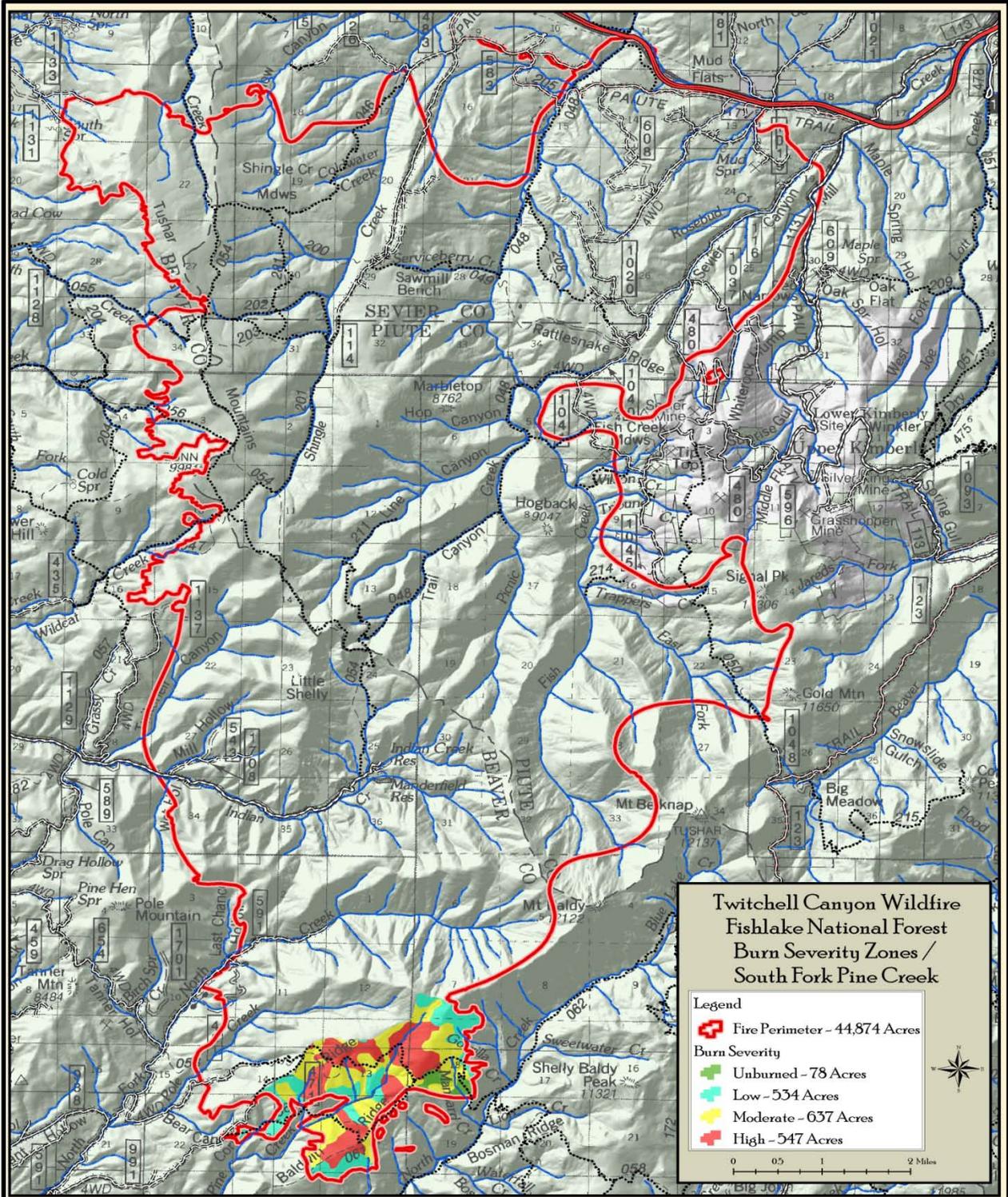
Fishlake National Forest

Twitchell Canyon Fire – P4FL8Q / 10-10-2010



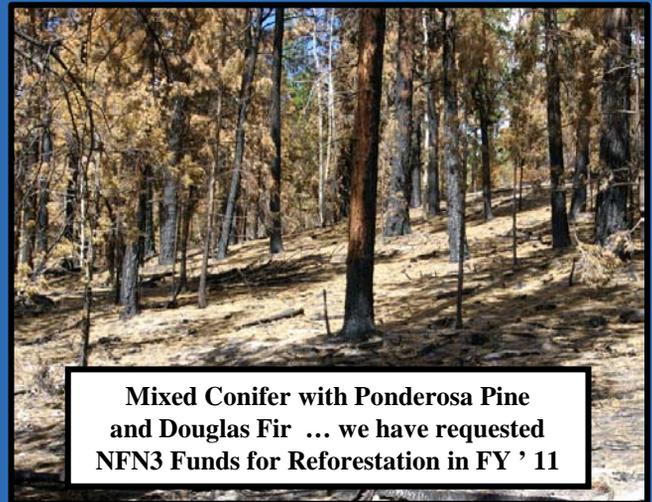
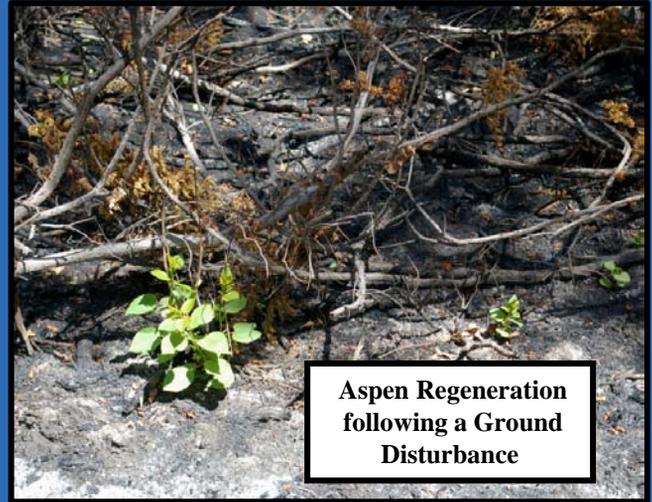
Fishlake National Forest

Twitchell Canyon Fire – P4FL8Q / 10-10-2010



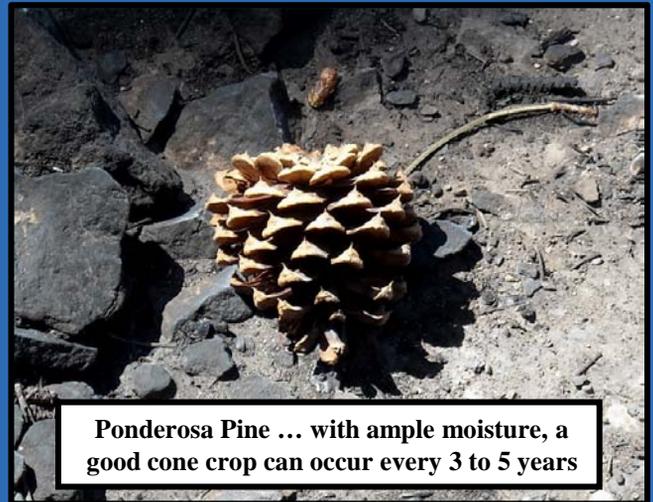
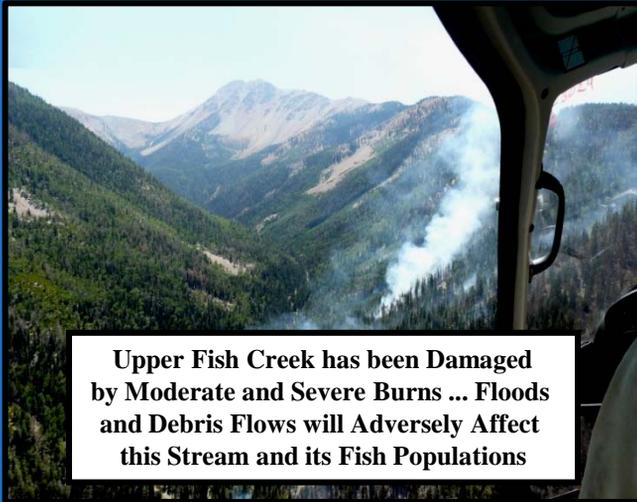
Fishlake National Forest

Twitchell Canyon Fire – P4FL8Q ... Additional Photographs 1



Fishlake National Forest

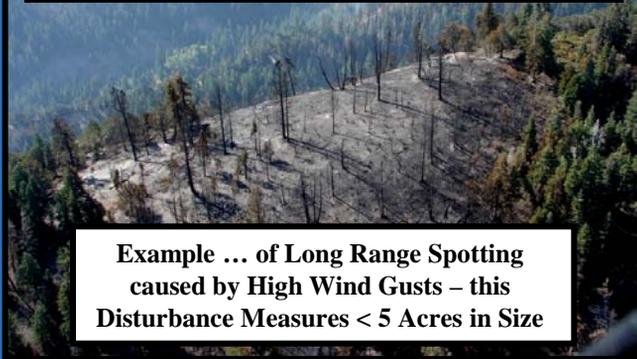
Twitchell Canyon Fire – P4FL8Q ... Additional Photographs 2



Fishlake National Forest

Twitchell Canyon Fire – P4FL8Q ... Additional Photographs 3

According to the Incident Command Summary (ICS - 209) ... as of 09-15-2010, our Wildfire had Grown to about 20,862 Acres in Total Size

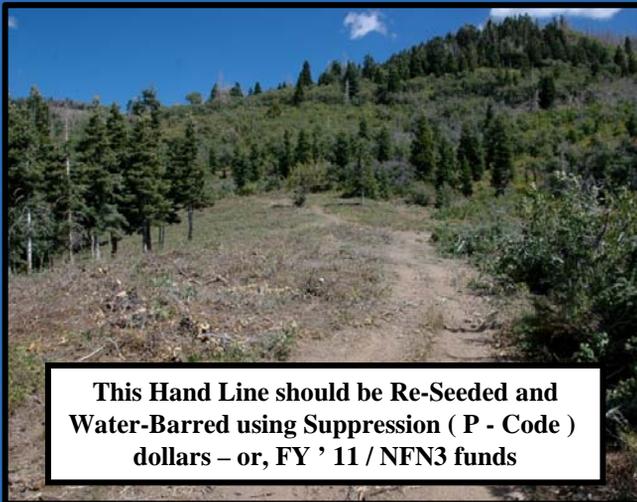


Example ... of Long Range Spotting caused by High Wind Gusts – this Disturbance Measures < 5 Acres in Size

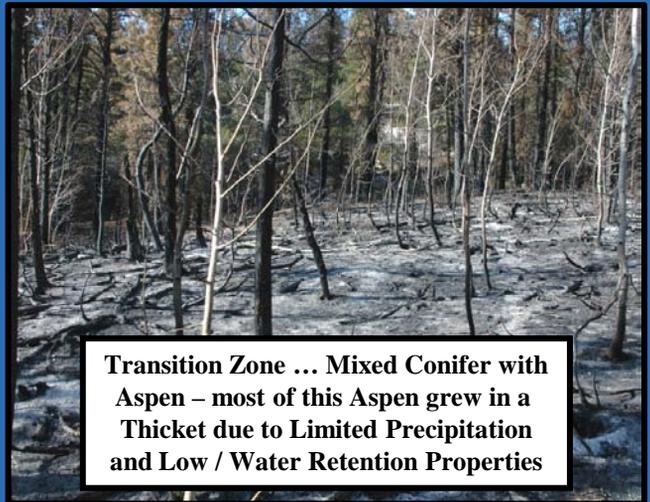
These burned-areas need to be treated with Broadcast Seeding to Minimize the Invasion of Cheatgrass and Noxious Weeds



Most of the Fuels occurring below 7,500 feet were PJ and Oakbrush



This Hand Line should be Re-Seeded and Water-Barred using Suppression (P - Code) dollars – or, FY ' 11 / NFN3 funds

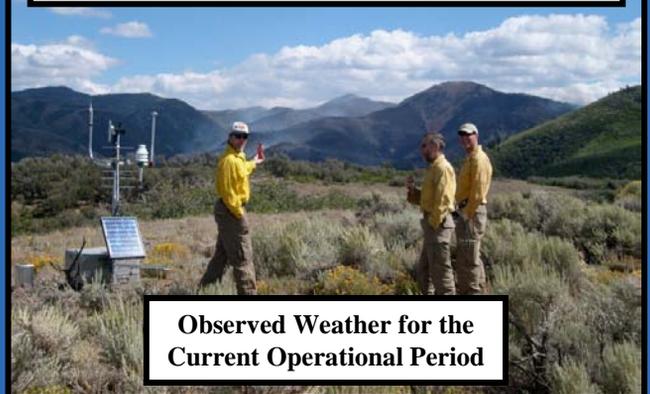


Transition Zone ... Mixed Conifer with Aspen – most of this Aspen grew in a Thicket due to Limited Precipitation and Low / Water Retention Properties



September 14th, 2010 ... Fire and Smoke are Threatening I – 70, Fremont Indian State Park, Private Lands and the Kimberly Mining District

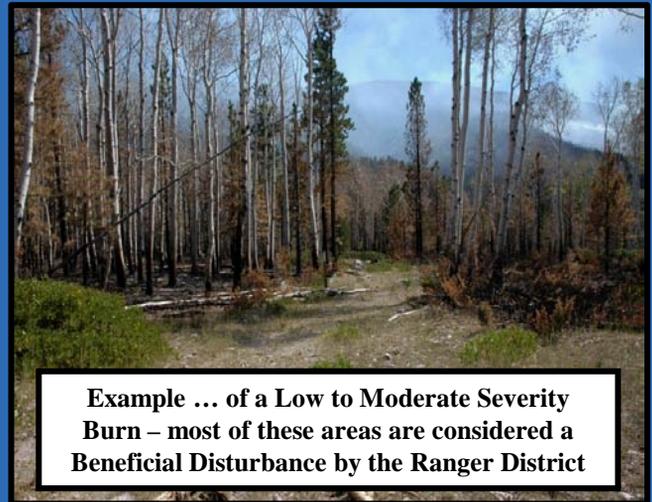
Several Employees gather Climate Data using a Remote Automated Weather Station (RAWS)



Observed Weather for the Current Operational Period

Fishlake National Forest

Twitchell Canyon Fire – P4FL8Q ... Additional Photographs 4



Fishlake National Forest

Twitchell Canyon Fire – P4FL8Q ... Additional Photographs 5

Fire Retardant can be dropped from Helicopters or Fixed-Wing Aircraft ... during warm weather conditions, it persists for about 60 days

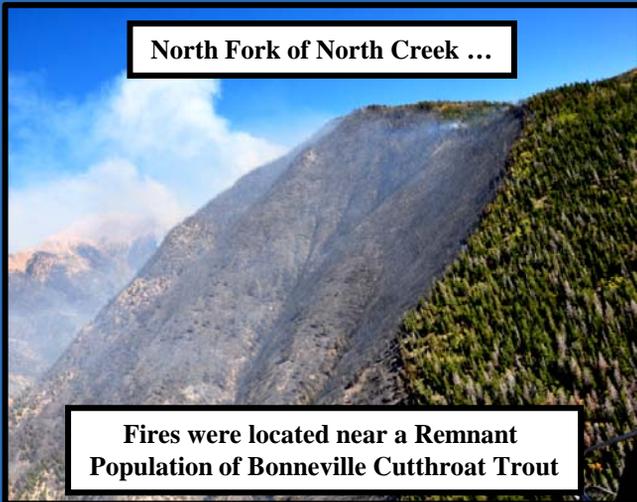


The Severely Burned Terrain surrounding this charred Drainage has the Proper Ground Conditions to cause Several Large Debris Flows



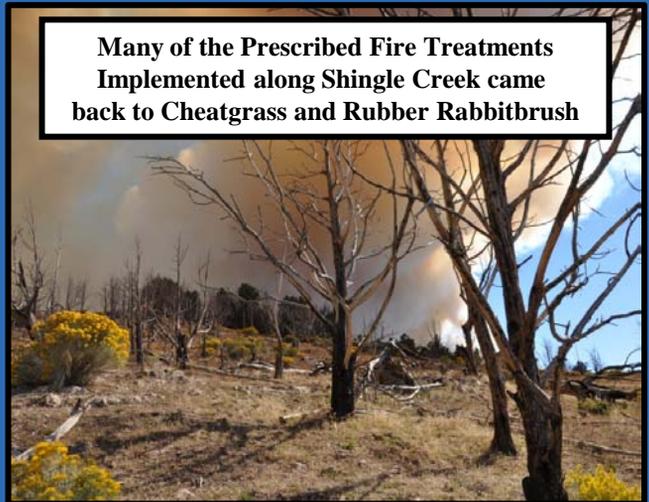
Line Canyon

North Fork of North Creek ...



Fires were located near a Remnant Population of Bonneville Cutthroat Trout

Many of the Prescribed Fire Treatments Implemented along Shingle Creek came back to Cheatgrass and Rubber Rabbitbrush



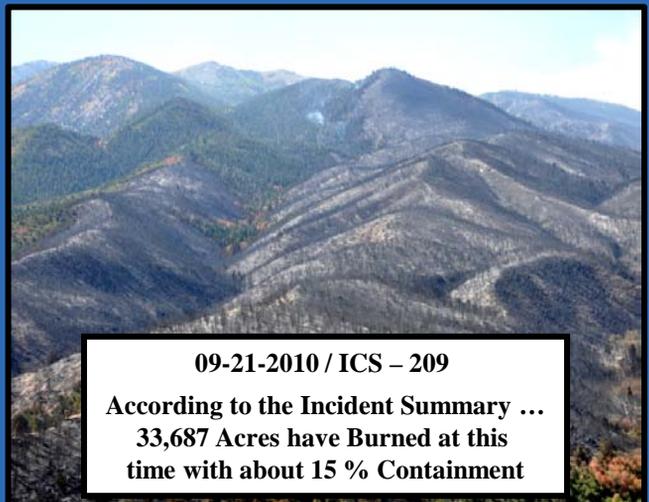
Fire Retardant



Twitchell Canyon ... another example of a Moderate to Severe Burning Disturbance

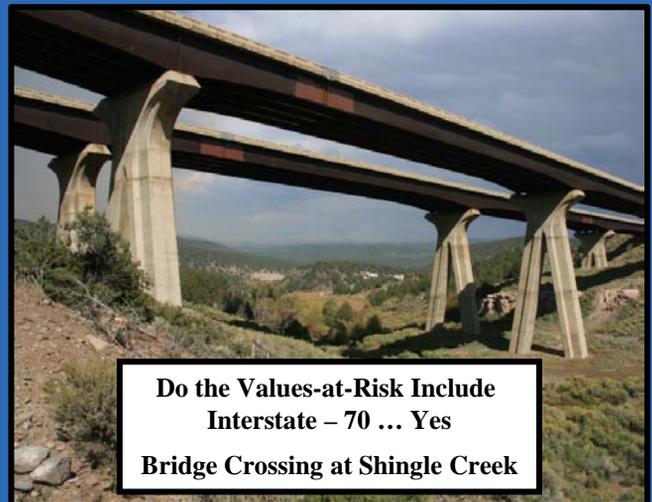
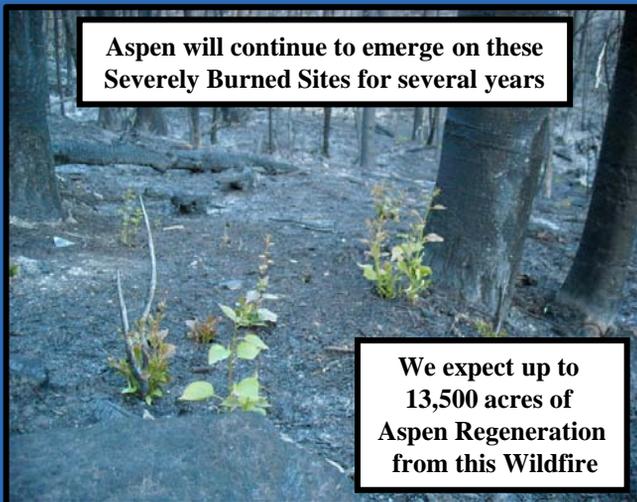
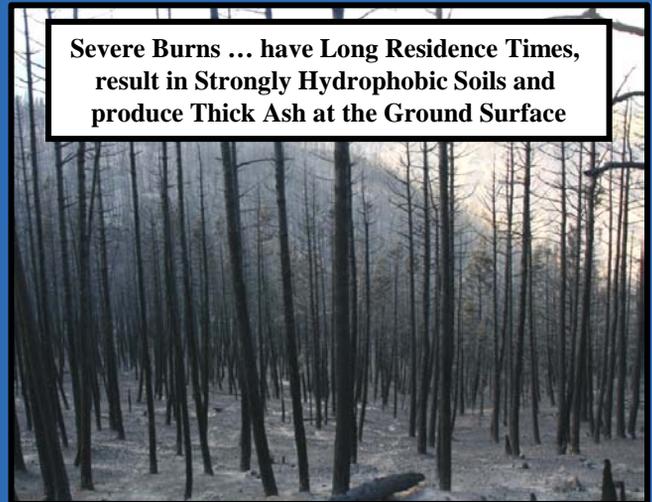
09-21-2010 / ICS – 209

According to the Incident Summary ... 33,687 Acres have Burned at this time with about 15 % Containment



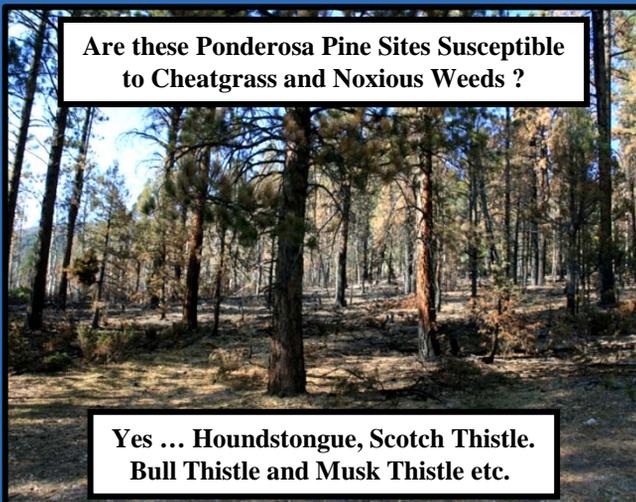
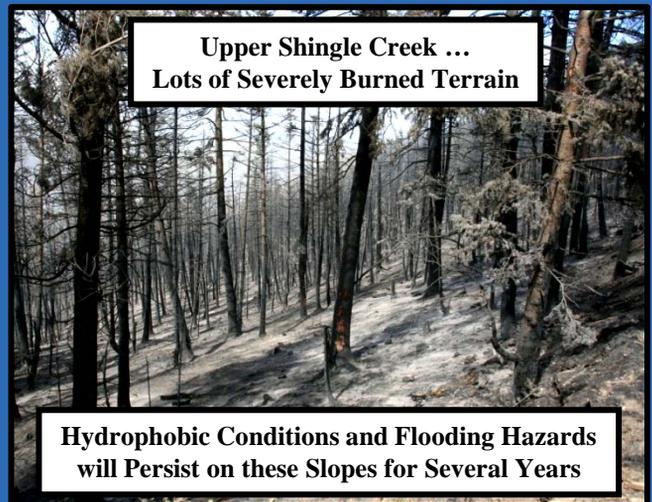
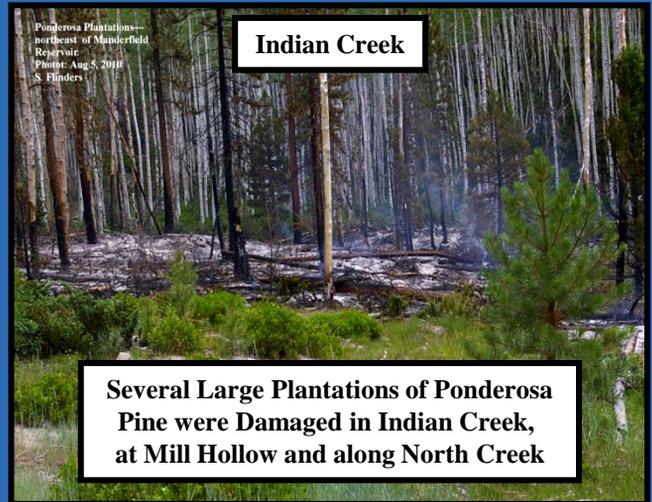
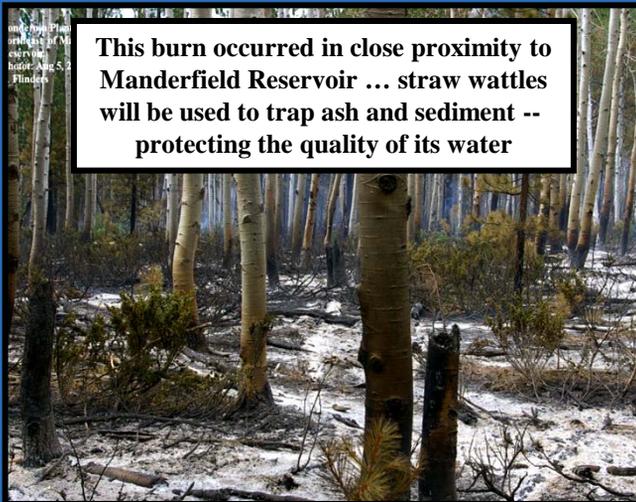
Fishlake National Forest

Twitchell Canyon Fire – P4FL8Q ... Additional Photographs 6



Fishlake National Forest

Twitchell Canyon Fire – P4FL8Q ... Additional Photographs 7

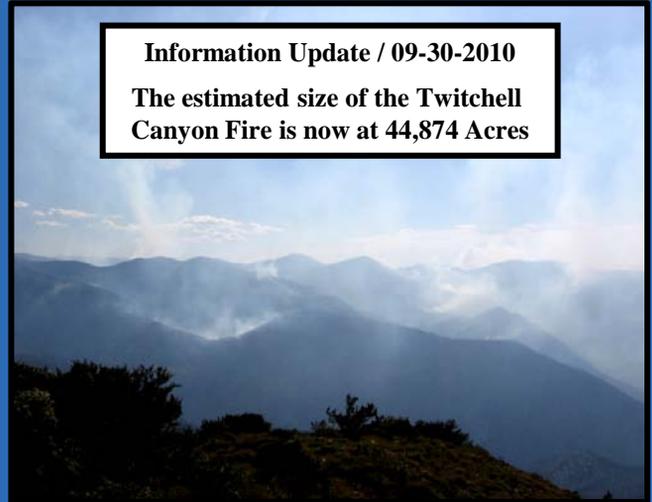


Fishlake National Forest

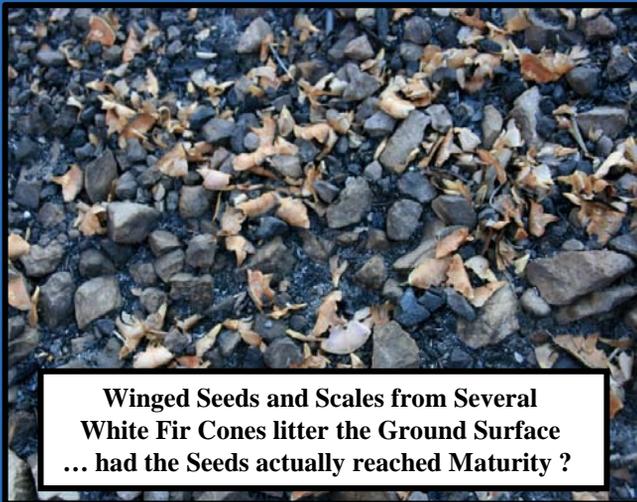
Twitchell Canyon Fire – P4FL8Q ... Additional Photographs 8



Rattlesnake Ridge ... another Landscape affected by a Moderate to High Severity Burn



**Information Update / 09-30-2010
The estimated size of the Twitchell Canyon Fire is now at 44,874 Acres**



Winged Seeds and Scales from Several White Fir Cones litter the Ground Surface ... had the Seeds actually reached Maturity ?



High Elevation Sites ... Pre-Burn Conditions were Seral Aspen, Stable Aspen & Spruce / Fir



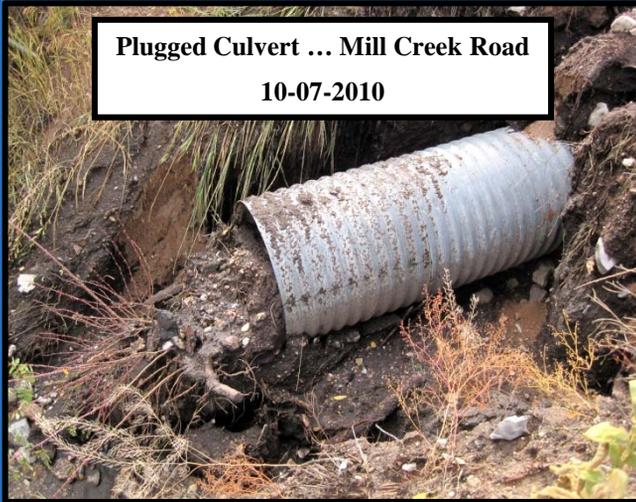
About 10 Miles of Road Needs to be Re-Conditioned within the Burned-Area ... the cost was estimated at \$ 25,000



We requested \$ 17,500 in NFN3 Funds during FY ' 11 to Remove Hazard Trees from Roads and Trails during Year # 1

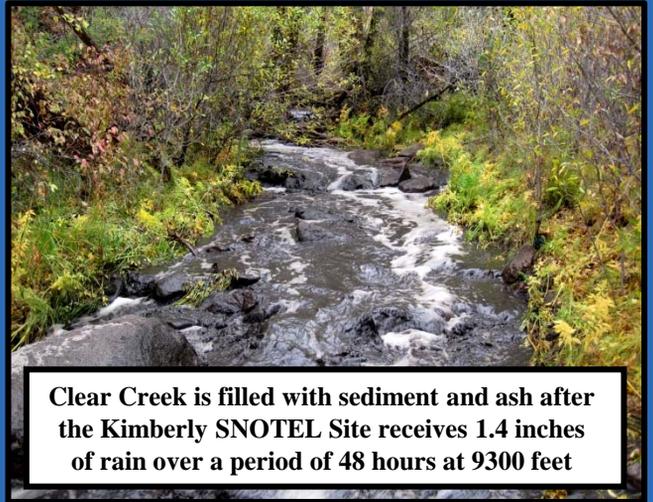
Fishlake National Forest

Twitchell Canyon Fire – P4FL8Q ... Additional Photographs 9

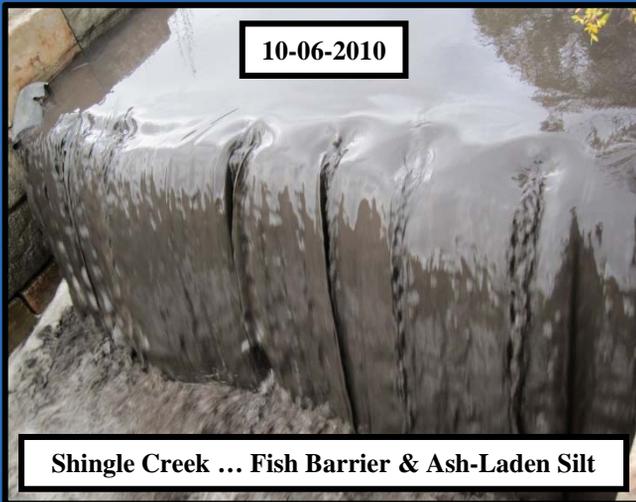


Plugged Culvert ... Mill Creek Road

10-07-2010

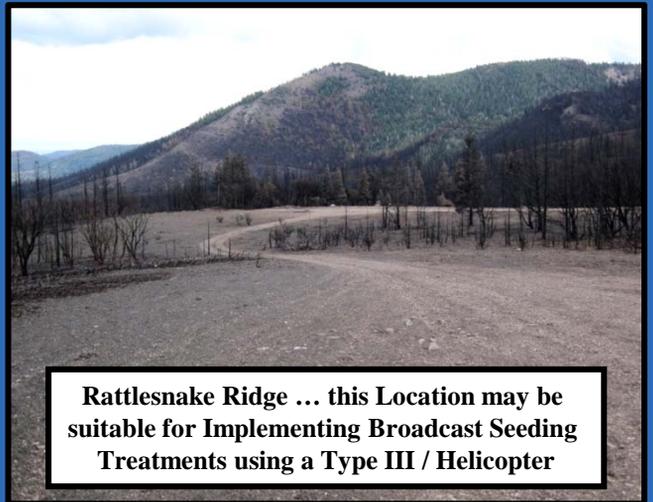


Clear Creek is filled with sediment and ash after the Kimberly SNOTEL Site receives 1.4 inches of rain over a period of 48 hours at 9300 feet

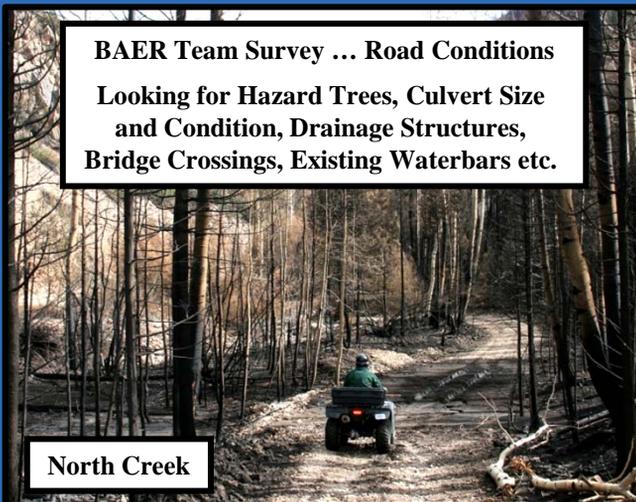


10-06-2010

Shingle Creek ... Fish Barrier & Ash-Laden Silt

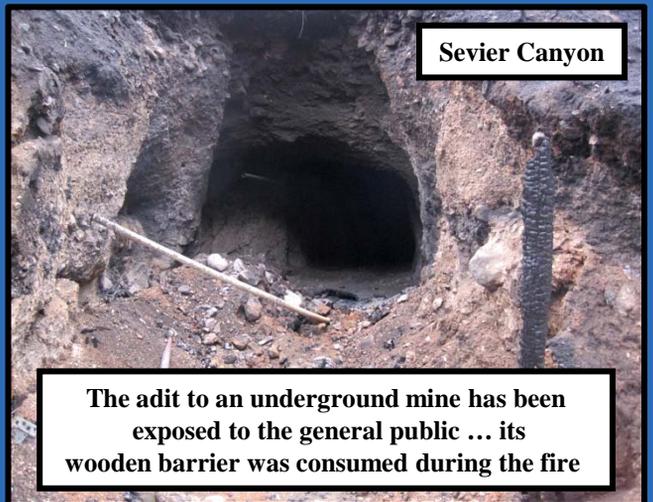


Rattlesnake Ridge ... this Location may be suitable for Implementing Broadcast Seeding Treatments using a Type III / Helicopter



**BAER Team Survey ... Road Conditions
Looking for Hazard Trees, Culvert Size and Condition, Drainage Structures, Bridge Crossings, Existing Waterbars etc.**

North Creek

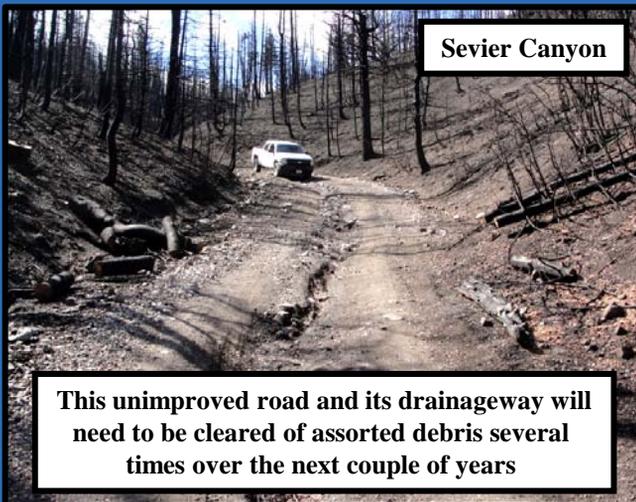
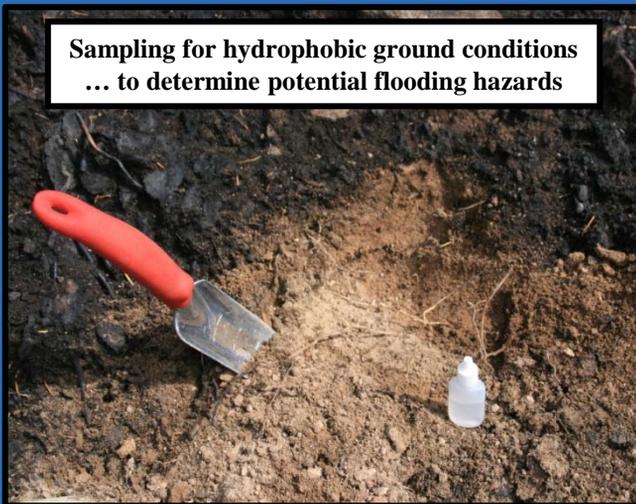
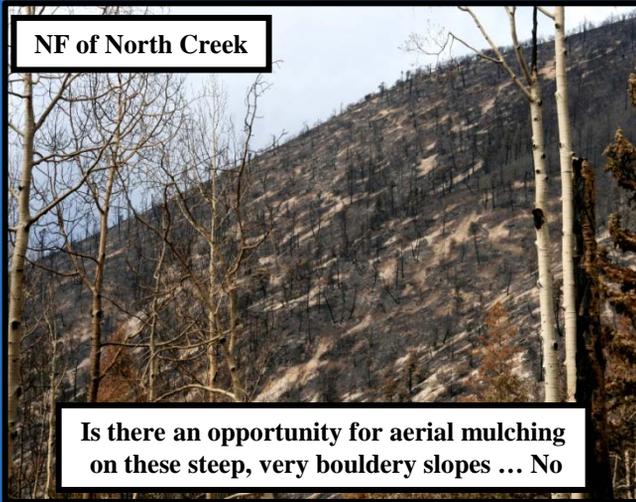


Sevier Canyon

The adit to an underground mine has been exposed to the general public ... its wooden barrier was consumed during the fire

Fishlake National Forest

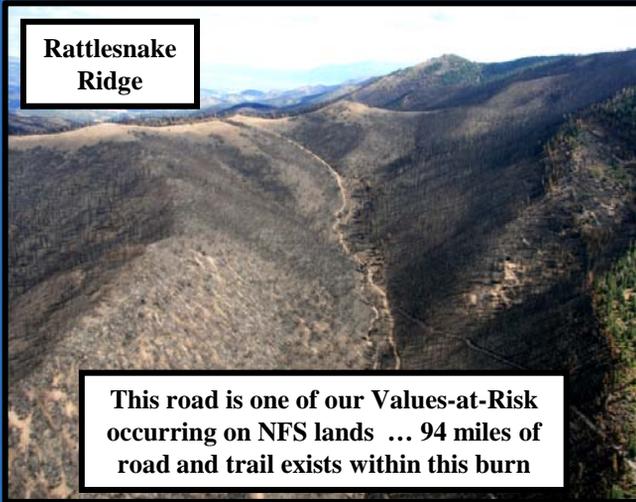
Twitchell Canyon Fire – P4FL8Q ... Additional Photographs 10



Fishlake National Forest

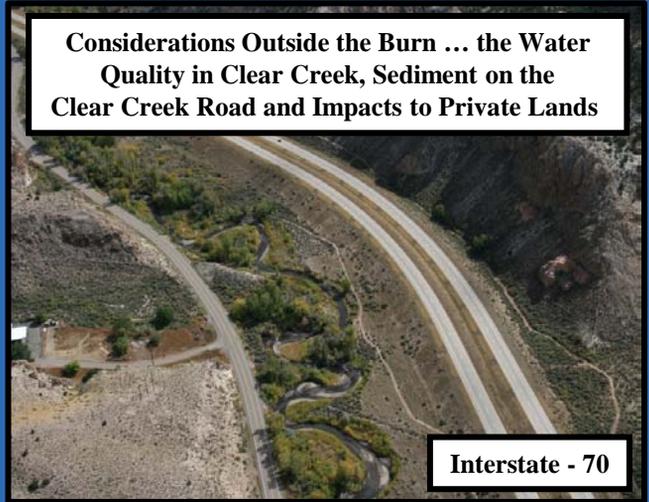
Twitchell Canyon Fire – P4FL8Q ... Additional Photographs 11

Rattlesnake Ridge



This road is one of our Values-at-Risk occurring on NFS lands ... 94 miles of road and trail exists within this burn

Considerations Outside the Burn ... the Water Quality in Clear Creek, Sediment on the Clear Creek Road and Impacts to Private Lands



Interstate - 70

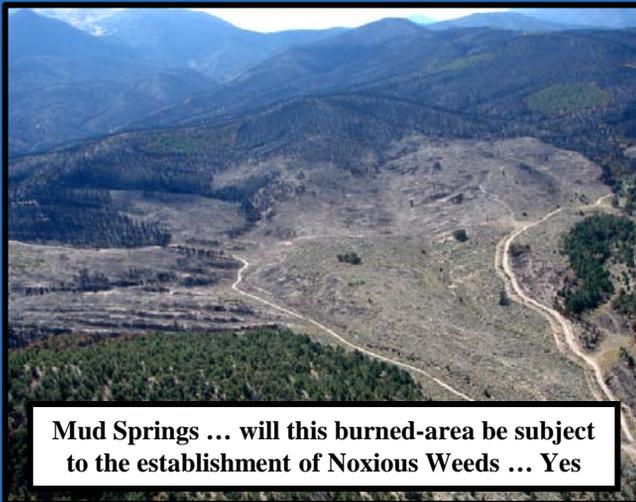
We have requested \$ 120,000 in NFN3 Funds for Constructing new Pasture Fences



A view into Line Canyon and Hop Canyon ... these drainages were impacted by a Severe Burn



Mud Springs ... will this burned-area be subject to the establishment of Noxious Weeds ... Yes



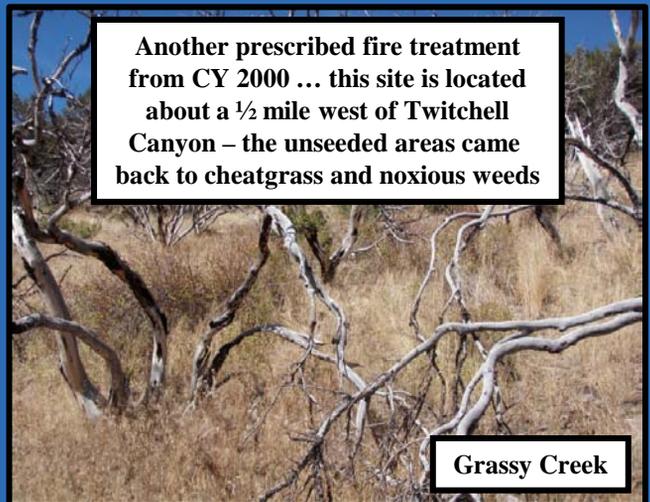
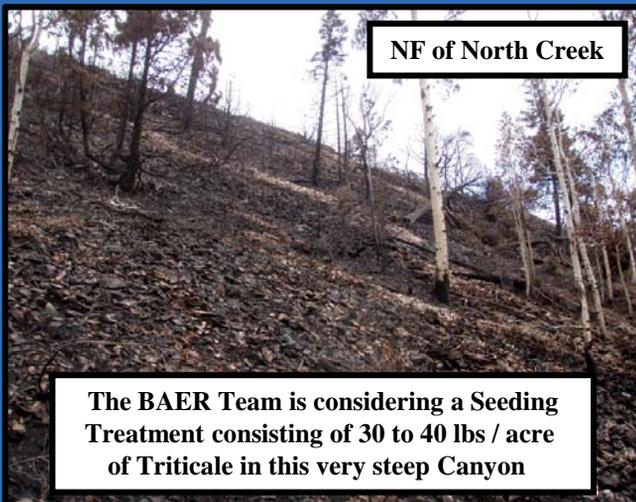
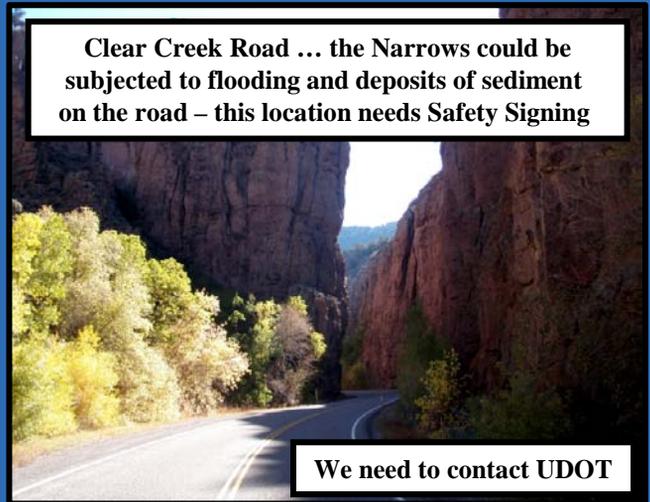
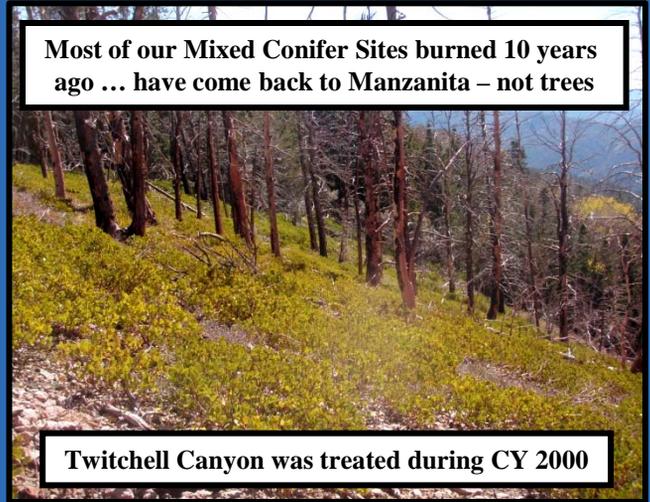
**Boise National Forest / Garden Valley Helitack
Bell 407 / Helicopter – Type III Aircraft**



Richfield, UT

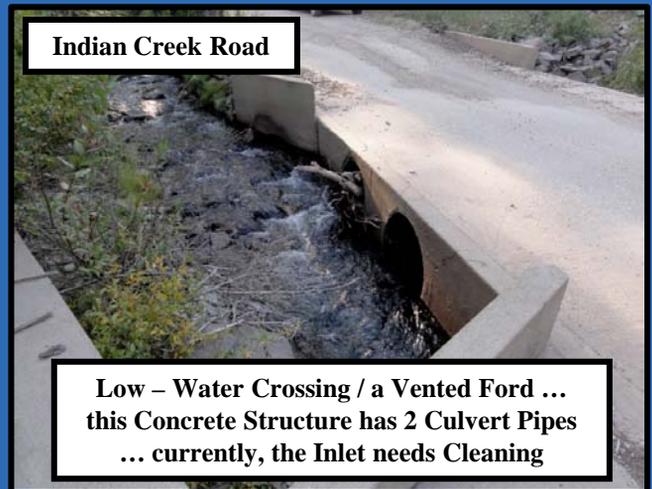
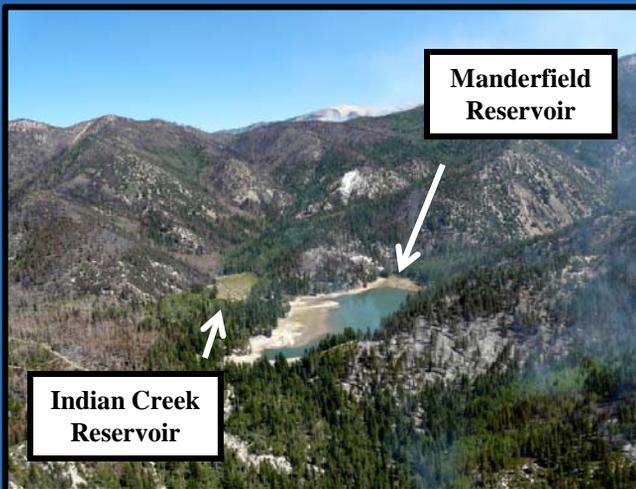
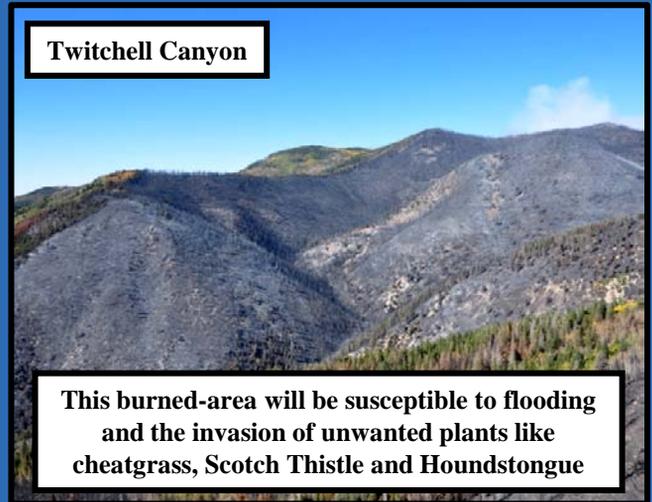
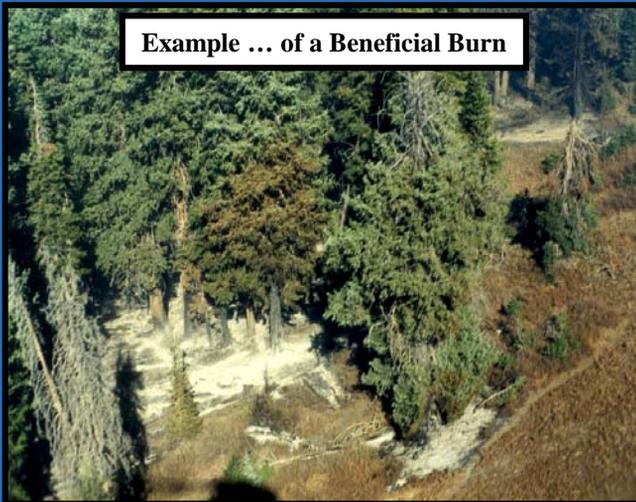
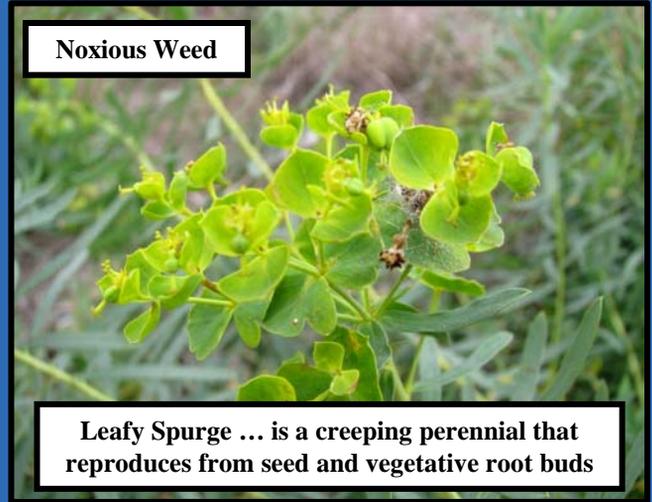
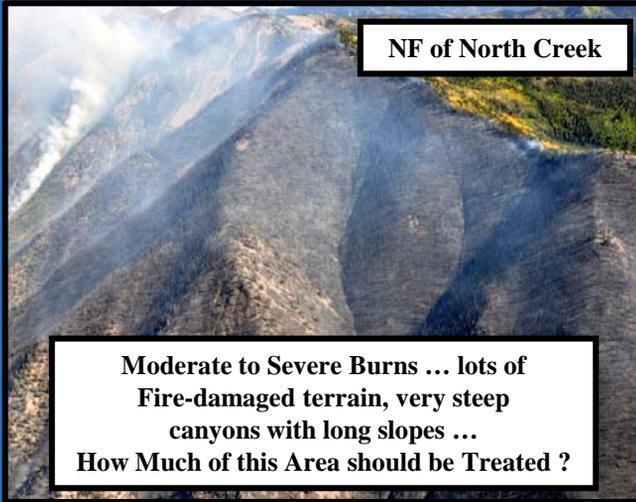
Fishlake National Forest

Twitchell Canyon Fire – P4FL8Q ... Additional Photographs 12



Fishlake National Forest

Twitchell Canyon Fire – P4FL8Q ... Additional Photographs 13



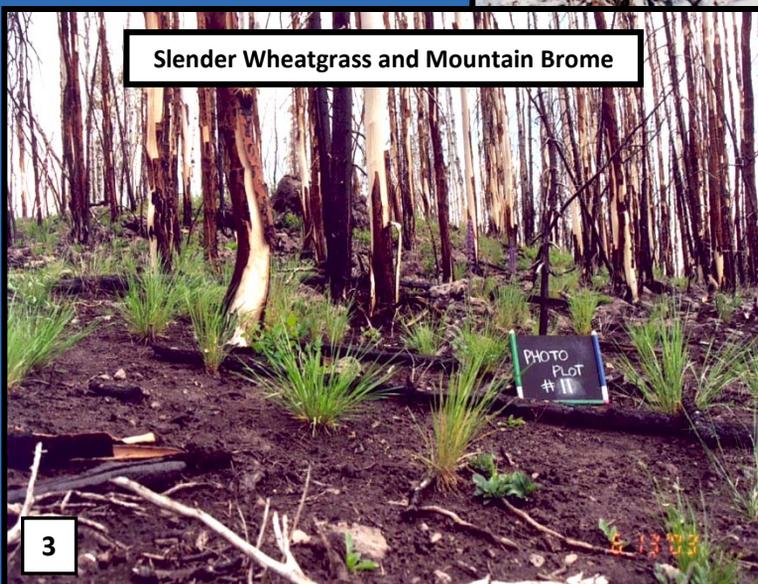
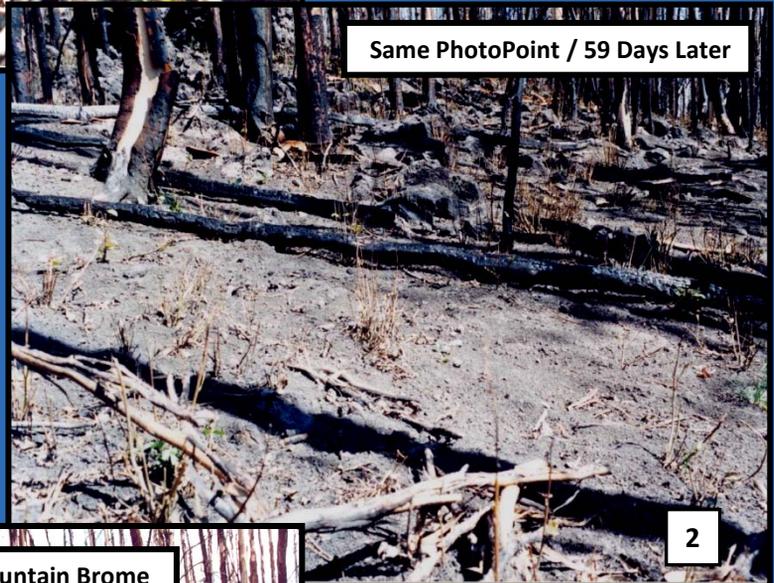
Oldroyd Fire of 2000 – Lessons Learned

1. Lessons Learned in 2001 ...

The Fishlake NF / BAER Team recommended no treatments on many of our high mountain landscapes affected by the Oldroyd Fire during CY 2000 – allowing for aspen regeneration to occur and stabilize the site. Upland big game animals were quickly attracted to these burned-areas; all of the new aspen suckers were consumed in a matter of weeks by deer, elk and domestic livestock. This PhotoPoint (# 11) was taken on **07-10-2001**.



2. Project 0408-FIRE00-05-Oldroyd ... our Seasonal Wildlife Crew established 20 different PhotoPoints within the Oldroyd Fire and monitored these sites to record the impacts of deer and elk within the burn. Their study lasted for a period of 3 years. Once again, this is a picture of PhotoPoint # 11 taken on **09-06-2001**. As you can see, all of the emerging aspen has been utilized as forage by the animals and livestock.

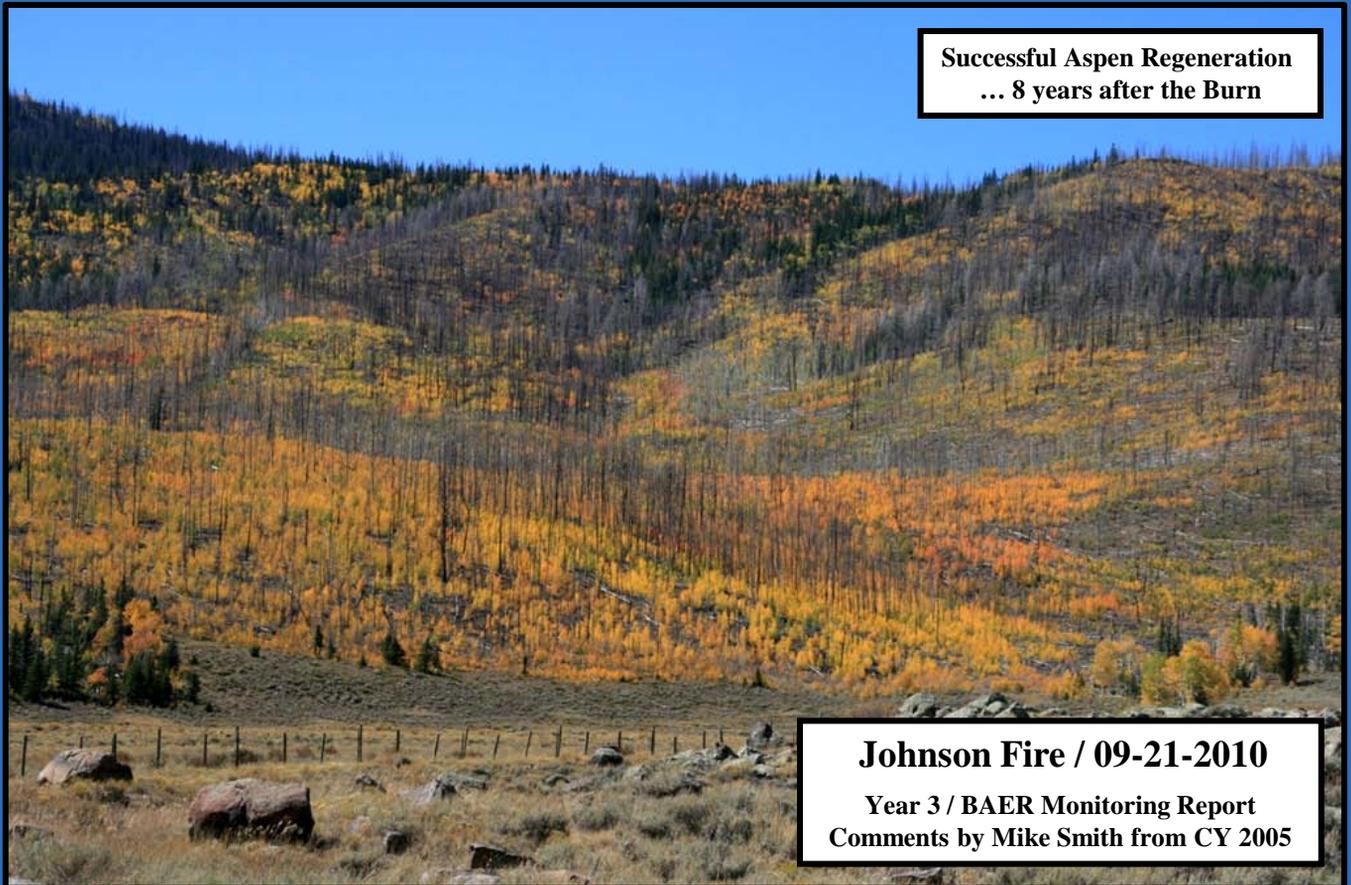


3. Another visit to PhotoPoint # 11 during the summer of 2002 shows ... the area is converting to a plant community of perennial grasses and forbs; our opportunity for aspen regeneration is gone. In this instance, permanent impairment and unacceptable long-term change of habitat has occurred on Monroe Mountain. In order to prevent this from happening on the Twitchell Canyon Fire, temporary fences should be considered (NFN3 Funds) to protect our aspen resources along migration corridors.

(Oldroyd Monitoring Report)

Fishlake National Forest

Johnson Fire of 2002 ... Lessons Learned



**Successful Aspen Regeneration
... 8 years after the Burn**

Johnson Fire / 09-21-2010

**Year 3 / BAER Monitoring Report
Comments by Mike Smith from CY 2005**

It is expected that most of the Johnson Fire will come to behave much like the Splatter Canyon Fire - in that, a large portion of the disturbance will eventually become covered with aspen. And why not ? Both the soil properties and site characteristics are nearly identical in these 2 areas. The soils within the burns were classified as being Argicryolls, Haplocryolls and Haplocryalfs. Mean annual precipitation is about 26 to 28 inches – and, each site receives 40 to 70 freeze - free days / year.

When everything was said and done ... the amount of forage actually utilized by upland big game animals on the Johnson Fire was much less than what we had observed at the Oldroyd Fire of CY 2000 on Monroe Mountain. It is expected about 70 % of the burned-area will eventually revert to an aspen dominated landscape once again. The remaining sites never had the potential to support aspen due to extremely stony ground conditions, limited water retention properties and acidic pH conditions occurring within the topsoil horizons.

FSM 2523 ... BAER / the Emergency Stabilization of Burned-Areas Located on NFS Lands following Wildfires

The current policy and direction for our BAER Program changed dramatically during August of 2010. Presently, all BAER Teams must complete a Risk Assessment Matrix (or several assessments) with their Initial / BAER Report. Simply stated, the new matrix helps the BAER Team determine when Emergency Treatments are considered necessary and appropriate on NFS Lands. Included in this document is a brief review of the current objective, our policy, its definitions and some of the changes related to ... a recently modified assessment process.

BAER Objective ... to identify imminent post - wildfire threats to human life, safety and property along with, critical natural or cultural resources – to recognize the consequences ... and, take immediate actions to manage all unacceptable risks

This material is being provided to our District Staff and Forest Employees to examine ... it is intended to help folks understand the new terms and definitions being used by the 2010 / BAER Program.

1 – BAER / Assessment Process ... 4 Basic Steps

- 1) Identification of the Values-at-Risk
- 2) Understanding of the Various Threats
- 3) Risk Evaluation – Determination of the Emergency
- 4) Treatment Prescription – Stabilization of the Burn during Year # 1

2 -- BAER / Risk Evaluation

Each critical value is evaluated using a Risk Assessment Matrix.

Risk is defined as ... a combination of 1) Probability of Damage or Loss grouped with 2) a Magnitude of the Consequences

3 – Probability of Resource Damage or Loss

Use the following as a framework to estimate the relative probability that damage or loss would occur within a period of 1 to 3 years

Very Likely	a nearly certain occurrence	(> 90 %)
Likely	likely occurrence	(> 50 % to < 90 %)
Possible	possible occurrence	(> 10 % to < 50 %)
Unlikely	unlikely occurrence	(< 10 %)

4 – Magnitude of the Consequences

Major	involves ... a loss of life or serious injury to humans; substantial property damage; irreversible and adverse affects to critical natural resources or cultural sites
Moderate	involves ... injury or illness to humans; a moderate amount of property damage; harm to critical natural resources or cultural sites -- resulting in considerable or long-term impairment
Minor	property damage is limited in economic scope and / or value to just a few investments; damage to natural resources or cultural sites often results in minimal, recoverable or localized effects

5 – Risk Levels ... is it a BAER Emergency ?

- **HIGH AND VERY HIGH RISK** ... these are unacceptable risk levels – emergency treatments should be considered and implemented
- **INTERMEDIATE RISK** ... this could be unacceptable “ if ” human life or safety is the critical value – emergency treatments may be necessary
- **LOW AND VERY LOW RISK** ... these are not unacceptable risk levels -- emergency treatments are rarely justified

BAER Risk Evaluation / Example # 1



This fragile area will be susceptible to the invasion of unwanted plant species like cheatgrass and Noxious Weeds in the form of Scotch Thistle & Houndstongue

- ➔ Severely burned terrain is located on very steep slopes
- ➔ Occurs in close proximity to the Indian Creek Road and its Class 3 / Fisheries
- ➔ This area is susceptible to plant invasion by Scotch Thistle, Houndstongue and Cheatgrass ... previously, these species did not exist on this landscape
- ➔ Soils were derived from volcanic tuff ... these sandy sites are very susceptible to detachment and transport by water – meaning, possible mudslides

Probability of Resource Damage or Loss on NFS Lands	Magnitude of the Consequences		
	Major	Moderate	Minor
	*** BAER / Risk Assessment Matrix *** Mill Hollow ... Potential Flood Hazard (noxious weeds / accelerated rates of soil erosion)		
Very Likely	Very High	Very High	Low
Likely	Very High	High	Low
Possible	High	Intermediate	Low
Unlikely	Intermediate	Low	Very Low

BAER Treatments ... broadcast seeding and aerial mulching – these actions are intended to stabilize highly erosive soils and minimize unwanted plants such as Cheatgrass, Scotch Thistle & Houndstongue; the seed mix will be designed for landscapes having 22 + inches of annual precipitation; this area will be monitored for flood events and noxious weeds

Twitchell Canyon Wildfire ... BAER / Risk Evaluations

Summary Table and Ratings

Critical Values	Probabilities	Magnitudes	Risk Ratings
*** Human Life and Safety ***			
Private / State Property	Possible	Minor	Low
Roads – Flooding	Very Likely	Moderate	Very High
Mine Adits	Likely	Major	Very High
Hazard Trees	Possible	Major	High
*** Property ***			
Forest Roads	Very Likely	Moderate	Very High
State Highway	Unlikely	Moderate	Low
Forest Trails	Likely	Moderate	High
Downstream Diversions	Unlikely	Minor	Very Low
Agricultural Water	Possible	Moderate	Intermediate
Downstream Improvements	Possible	Moderate	Intermediate
Geothermal Plant	Unlikely	Moderate	Low
Manderfield Reservoir	Possible	Moderate	Intermediate *
*** Natural Resources ***			
Wild & Scenic River	Unlikely	Minor	Very Low
North Creek – Irrigation	Likely	Minor	Low
Geothermal	Unlikely	Moderate	Low
Soil Productivity	Very Likely	Major	Very High
Hydrologic Function	Very Likely	Moderate	Very High
LE – Plant Communities	Likely	Moderate	High
HE – Plant Communities	Possible	Moderate	Intermediate
*** Cultural Resources ***			
Listed Sites	Unlikely	Minor	Very Low