

# Catastrophic Wildfire Reduction Strategy

## Regional Projects

### Northwest Region #1

#### Project 1 of 2

#### **Bear Lake Communities. Cost: \$3.2 Million in costs**

The first area our group chose to focus on is the community around Bear Lake and the Bear Lake watershed. This area was chosen because there are a large number of homes and infrastructure constructed in the wildland urban interface. There are a number of values at risk in the area including property, life, view sheds, and recreation opportunities. The area has participated in developing firewise plans in the past and some of the property owners are proactive. An additional worry in this area is that many of the homes are second homes that are only inhabited for a small portion of each year. Much of the efforts that need to be focused on for this area include education for the property owners. Teaching homeowners what they can do to reduce the risk to their own property is an important tool. Another concern that needs to be addressed is to understand the best way to convey this information to homeowners. Some of the methods that have been tried in the past have met with less than success or had low levels of participation. Research may need to be conducted to determine the most effective means to convey useful information to the landowners. In many cases they have an incomplete understanding of some of the risks they are exposed to due to potential wildfires. Many of the developments only have one egress route to properties which could quickly become problematic in the case of a large fire. Work needs to be completed to provide alternative routes to escape fire. In addition many areas need fuel reduction work completed to lessen the risk of crown fires in neighborhoods. Water availability in these neighborhoods is also an issue that needs to be addressed. In addition many of the roads and private driveways need to be widened and improved to allow access to fire trucks. An increase in available firefighting equipment is also needed in the area. The group also discussed the idea of creating maps of water sources and private resources that are available to fire fighters. It was also suggested to put this information online so that it can be updated real time and accessible to firefighters when needed.

#### Barriers for the Bear Lake Communities:

- Elk Hollow, Bridger Valley, and Sweetwater; there is a struggle there to get enough people to represent these communities around Bear Lake
- Delays of going through a 911 call center instead of an interagency fire command. It seems like there is an agency to community fire communications problem
- Communications between agencies and livestock producers. We may need a rancher liaison to act as a rep. to landowners and ranchers.

- Could we help train or incorporate private landowners to be fire trained to work with agencies?
- Communication with radio frequencies between counties, state, and federal fire groups.
- Cultural resources, Do they need to be represented in fire management plans?
- Bear Lake area: Where do they evacuate to? How do you keep the tourist safe?
- How could FFSL get a database of water tanks and storage on private lands?
- Could we work with developers and planners to develop according to a specific level of fire plans?
- Post PJ treatments cause some concerns fire because of residual slash.
- There are opportunities to do large prescribed fires on laces of private land owners like Deseret Land and Livestock because of it being a single land owner and easier to work with.

#### Bear Lake

- Could we possibly have more timber harvest for fire mitigation? It seems like there were no risks addressed in most towns about fires.
- Infrastructure costs for the communities:  
Street signs to better identify location, siren located in town to warn entire hill sides of an emergency like a fire, outreach ideas like supporting storage tanks on private property
- Possible sources of ignition in the Bear Lake area come from sources like: ATV's, fireworks, human causes, cars
- Possible idea might be to host a home as part of the Bear Lake Parade of Homes focusing on a fire wise house
- CWPP's can cost \$5000 in-house
- Title 3 money was matched in the past before

#### **Northwest Region #1**

##### **Project 2 of 2**

#### **Grouse Creek Valley Costs \$2.4 Million**

The second area chosen by our group is the upper Grouse Creek watershed. Concerns that lead us to choose this area include risks to Sage Grouse habitat, the potential for extremely large fires (several fires of over 100,000 acres have occurred near here), the risk to the ranching interests in the area and the remoteness of the area. Cheatgrass invasion was also identified as

Mitigation strategies that were discussed for this area include an acceleration of the fuels projects that have been going on in the area, especially removing pinyon-juniper that has encroached on historical sage-brush communities. Additional green strip firebreaks were also identified as a strategy to help limit the size of fires in the area. This concept of keeping fires smaller in size would also help in having the ability to restore burned areas after a fire because

the means to do so would be available on a year to year basis. There is a need to have firefighting resources staged closer to the area. One idea that was discussed was additional training and fire fighting certifications for local residents. This could serve as a first response force to attack fires while they are small. Additionally communications was identified as a serious bottleneck for effective fire management. There is no cellular coverage in the area and even radio communications are not very reliable. Adding communication infrastructure was one of the highest priorities identified by the group for this area. Education would be an important component of the plan for Grouse Creek as well. We talked about sharing information with participants about fire behavior and how it has changed as we have moved into a hotter drier climate. These changes are changing the ways that fires are fought and landowners need to be educated to understand what is happening. Another potential tool that was identified by the group was the use of lightning rods to attract lightning and reduce the starts of fires caused by lightning.

#### Grouse Creek Barriers

- Cell Phone Coverage
- Repeaters for Radios
- Finding new repeater sites for better radio coverage
- Long Distance from help
- Lack of resources from national oversight, resources may be used on higher priority fires
  
- Training Resources have been dropped by BLM
- Cost to train volunteer firefighters is prohibitive
- There is an incentive to get all volunteers red carded to qualify for grants to get better equipment.
- There is a desire to pursue lightning arrestors and more info about them.

## **Wasatch Region #2**

### **Midway Fuel Break Project**

Project 1 of 3

Swiss Mountain Estates, Oak Haven, and Interlaken developments are located in Wasatch County facing south and southeast slopes. These developments are built in Gamble Oak and drought stressed areas.

Swiss Mountain Estates and Oak Haven experienced a fire in 1990. During this fire homes were lost and 2 firefighters lost their lives. A repeated fire happened in the same area in 2005. These areas in Wasatch County have a greater risk for future fires.

If there were a Fuel Break in place made thru the gamble oak above these communities, this would help control fires. The communities would need to create a CWPP "Community Wildfire Protect Plan" and then the sweat equity "labor" of home owners in creating a fire break around their homes. This would consist of clearing 30' of the gamble oak and vegetation around the homes and maintain throughout growing season. There would need to be a fire break put in and maintained yearly of 7.5 miles. The fire break would be installed above developments as a buffer between the forest and development. This would also require a type 2 hand crew team at \$5,400.00 per day covering all expenses along with a chipper at \$26.00 per hour. The project would take 5 days per mile using for cutting and stacking. This Fuel Break would have 80' foot wide clear zone. The total cost to put in a clear zone of 7.5 miles would be \$195,000.00. Maintenance would need to be performed yearly in the communities at a total cost of \$20,000.00. The total cost of maintaining the Fuel Breaks in these communities for 20 year would be \$200,000.00. Then they would need inspections, education & compliance at a cost of \$55,000 for the first year. Then follow up for the next 20 years to maintain and teaching new home owners etc. would be \$220,000.00. The total project would cost \$670,000.00.

### **Davis Bench Catastrophic Wildfire Project**

Project 2 of 3

The fire departments in Farmington, Layton, South Davis, Kaysville, Syracuse and South Weber Counties would like to improve their education outreach capabilities by requesting funding to implement the Ready Set Go program. This will affect around 6,000 people and cost \$20,000. In addition, they want to improve their communication with state and federal firefighters by requesting \$25,000 for additional radios. A total of 25 acres along 3.5 miles of the Firebreak road needs to be sprayed for cheatgrass and replanted to forage kochia. This will cost \$90,000. The City of Layton would like to reduce heavier fuels in their urban interface area. This would entail \$250,000 to address 100 acres. The road needs to be maintained to allow access for fire fighting equipment. At \$1600 per mile this will require \$5600. Finally the county would like to request 5 Type 3 engines for urban interface protection. At \$300,000 each this would require \$1,500,000. This makes the total request \$1,890,600.

### **Lake Mountain Catastrophic Wildfire Project**

Project 3 of 3

A large effort is being undertaken in the Lake Mountain area of Utah County. This is a high priority area for the BLM and they have a fuel reduction project targeting cheatgrass here. The Alpine Conservation District is seeking funding from the Utah Department of Ag to develop a Comprehensive Resource Management Plan for the area with a focus on catastrophic wildfire. As part of that plan SITLA wants to develop a grazing management system for their lands near Eagle Mountain and Saratoga Springs. The Division of Forestry, Fire and State Lands would like to assist private landowners adjacent to SITLA Lands in the Area and will be seeking funding for 2 miles of fencing on private land to help address the cheatgrass problem. This will cost \$15,840. In addition SITLA and the Division would like to reseed 1600 acres of state and private land with forage kochia for \$351,200. In conjunction with United Fire Authority, the Utah Division of Forestry, Fire and State Lands is seeking \$5000 in funding to develop a Community Wildfire Protection Plan for the community of Eagle Mountain. The total request for this project is \$372,040.

**Uintah Basin Region – 3**  
**Project 1 of 1**

The project that the Northeast area chose to submit includes the community of Dutch John, Flaming Gorge acres, and Flaming Gorge pines. This project is comprised of 145 homes, 11 businesses, Flaming Gorge Dam, Highway 191, various utility lines, and the Flaming Gorge recreation area. The total cost of the project, including 20 years of maintenance on fuel treatments is \$940,000. The initial components of the project would include two CWPP’s, acquisition of two 5 ton fire trucks, and Fuels reduction work on the National Recreation area adjacent to the communities. Total acres treated at the completion of the project will be more than 650 acres.

**Daggett County Catastrophic Fire Plan**

<b>Community</b>	<b>Values at risk</b>	<b>Quantity</b>	<b>Actions to mitigate and priority</b>	<b>Cost</b>	<b>Probability of success Community Support</b>
Dutch John	homes	145	CWPP for Flaming gorge acres. 1	\$30,000	Moderate
	business	11	CWPP for Dutch John. 1	\$30,000	
	Highway 191	1	Acquisition and build up of 2 five ton fire trucks. 2	\$50,000	
	Dam	1	NRA Fuels reduction, thinning, and burning project. 3	\$500,000	
	Recreation	Yes	Fuels reduction work around homes and buisnesses. 4	\$60,000	
	Tourism	Yes	8 miles of fuel breaks. 5	\$80,000	
	Watershed	1	Maintenance of fuel break. 6	\$190,000	
Total cost				\$940,000	

Central region #4  
Project 1 of 1

[Maps - CatFireCentralAreaover11x17](#)  
[Maps – CatFireCentralAreaProjectArea](#)

## **Central Region Catastrophic Fire Issues**

County planning and zoning laws and practices were not done very well in the past and are causing concern today. New state WUI law (HB-146) is a big help for counties. May be able to find sample planning and zoning ordinances from well-planned areas and pass them along to the counties for consideration.

Airport improvements at Ephraim including fuel availability may improve firefighting support along the Sanpete front.

Second home owners need to bear the responsibility for defensible space around their dwellings, not tax payers and other insurance payers. Education of home owners is considered the number one priority along the Sanpete front.

Grazing and other vegetation management practices are being reduced or lost as tools to reduce fuels and fire risk.

NEPA may be an impediment in some cases, or at least may slow down or stop the federal projects. However, NEPA is a current federal law that allows for public comment and social license for federal projects.

It is recognized that fire will always be part of the communities but there is a great need to do our best to minimize its effect on communities and economies.

Agricultural operations in WUI areas such as dairy farms and turkey sheds are at risk and need defensible space improved.

Fuels loading on forest lands are putting watersheds at risk.

Economic damages to watersheds, irrigation structures/systems, wildlife habitat, culinary drinking water systems and fisheries from flooding after the wildfires are catastrophic.

Proper fire rehabilitation across ownership boundaries after fires is expensive but necessary to stabilize watersheds, reduce noxious weed invasions and reduce fire frequencies (don't allow cheat grass to invade fire scar and increase fire frequencies). The current Utah Watershed Restoration Initiative is very proactive and active in accomplishing this work.

Travel corridors along I-15 and I-70 are have high risk fire concerns providing safety to travelers and economics of shutting down freeways due to fire.

Shrinking federal budgets are a concern in having adequate amounts of trained fire fighters available to fight fires. There is a need to train more local fire fighters from cities and towns to help with wild fires and to help provide education to home owners to provide defensible space. Special use permits, easements, and right-of-ways issued for communication towers, pipelines, power lines, etc., need to be required to reduce fuels around their facilities and structures to reduce the impacts of fire on communities. Counties may need to fund an inventory of all these types of facilities so they can determine the risks that fires may have on these facilities and the impacts for their citizens.

Proper grazing could help to reduce fine surface fuels in critical, strategic, and specific areas. However, using livestock grazing to reduce the risk of cheatgrass fires faces economic, timing and feasibility implementation challenges at landscape level. Extreme caution must be taken where native and perennial plants exist (Diamond, 2009). Further, grazing has been shown to cause an increase in woody shrubs, ladder fuels and, over time, fuel loads, potentially raising the risk of catastrophic fire in some ecosystems (Belsky and Blumenthal, 1996).

Local elected officials can help influence agencies, politics, and funding for fire issues.

Review and implement fire management strategies already in place. Many community wildfire protection plans (CWPP) have been written for WUI areas but have not been implemented. Other federal plans (The National Cohesive Wildland Fire Management Strategy) have been written and need continual implementation.

There is a need to restore appropriate fire to the landscape in accordance to management objectives and to make communities more resilient to fire related disturbances. This should be done when environmental conditions are such that fires do not become catastrophic (can control fire intensity and timing).

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One Team Member representing conservation groups is not supportive of the Central Region's plan to chain trees up-wind from several communities.

## **Literature Cited**

Belsky, J and D Blumenthal. 1996. Effects of livestock grazing on stand dynamics and soil and upland forests in the Interior Northwest. *Conservation Biology* 10(5): 313-327.

Diamond, J.M. Call, C. A. Devoe. 2009. Effects of targeted cattle grazing on fire behavior of cheatgrass-dominated rangeland in the northern Great Basin, USA. *International Journal of Wildland Fire* 18: 944-950

## Grand County Pilot Project Proposal Southeastern Region

### **La Sal Mountain Municipal Watershed Pilot Project**

This project addresses the threat of catastrophic wildfire above the communities of Moab and Castle Valley in the La Sal Mountains. The project includes several components: fuels treatments around existing mountain communities; treatments to protect two vital communications sites; additional clearing along a vital power line; the completion of a CWPP for the west slope of the La Sal Mountains; installation of water tanks in the Willow Basin community; improved address and road signage; public outreach and education.

The objectives of the proposal were developed through a collaborative effort with representatives from all of the major stakeholders in the community (local city and county elected officials, fire departments, law enforcement, emergency management, Federal agencies, state agencies, environmental, industrial and commercial entities). Mitigation actions identified in this proposal build upon planning actions and vegetative treatments already identified and implemented throughout the pilot project area. All proposed mitigation actions have strong community support and would be implementable fiscal year 2015.

While this proposal primarily addresses activities to be completed on state and private lands (except where indicated), the ongoing efforts of the development of a more comprehensive plan for Grand County will include activities to be carried out on Federal lands. Grand County is upwards of 95% Federal lands and any plan that seeks to address Catastrophic Wildfire Reduction must include Forest Service and BLM managed lands.

### **Proposed Activities and Implementation Costs:**

#### Landscape Resilience

- Fuels treatments around communities (cut & chip and cut, pile & burn), 350 acres at \$800/acre = \$280,000
- Communication sites (cut & chip), 15 acres at \$800/acre = \$12,000
- Continued clearing and maintenance along power line, to be completed by utility company (no additional cost).
- Additional vegetative work adjacent to power line is being planned by the USFS (no additional cost).

#### Community Protection

- Community Wildfire Protection Plan creation (Sand Flats south to county line) = \$10,000
- Improved address and road signage = \$5,000
- Public Outreach and Education:
  - Print materials already in existence = \$2,000
  - Education Kiosk in communities to include maps, safety zones, evacuation routes etc. = \$2,500
  - Information packet for new construction/owner = \$1,500

#### Fire Management Capacity and Capability

- Water tank purchase and installation (to assist in suppression activities); 4 tanks at 10,000 each = \$40,000

**Total Implementation Costs: \$353,000**

#### **Southeast Region #5**

#### **Project 2 of 2**

### The Carbon County Catastrophic Wildfire Reduction Strategy Pilot Proposal

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Carbon County, Utah has identified two parcels of land in Lower Fish Creek which lie in the northwestern corner of the county to serve as our pilot project area under the State Catastrophic Wildfire Reduction Strategy Program. The westernmost parcel is part of the Lower Fish Creek Wildlife Management Area (WMA) designated by the State Division of Wildlife Resources (DNR). The portion identified is approximately 826 acres of that WMA located along the stream in Lower Fish Creek. The easternmost portion is a section of land that belonged to School and Institutional Trust Lands Administration (SITLA), but was conveyed to DNR around April of this year. It is approximately 639 acres in size and is similarly located along Lower Fish Creek. Of the combined 1465 acres, approximately 591 acres have been identified as wooded. Timber is on the north face of the canyon and is situated typically on steep slopes. Current test counts show some wooded areas are comprised of over 50% dead standing timber. This area has garnered the attention of Carbon County to the level of being proposed the pilot in this project due to its high fuel loading, steep slopes and proximity to Lower Fish Creek. It is feared that should this area burn, significant damage to watershed, transportation corridors, and communication infrastructure could directly result. Further, inexorably linked after-effects of flooding could prove to be even more damaging. Lower Fish Creek is a Blue Ribbon Fishery that connects Scofield Reservoir, which is the sole source of drinking and irrigation water for nearly three-fourths of the county, with the municipalities of Helper, Price, and Wellington and their surrounding un-incorporated communities of Spring Glen, Kenilworth, Carbonville, Miller Creek, Coal Creek, etc. It does so by converging with the White River which flows down Price Canyon. Along, and just a few feet above Lower Fish Creek, runs the main rail line that connects Utah with Colorado to the east. When they reach the White River, the water and rail run alongside Highways 50 and 6 down through Price Canyon. This Highway is the main roadway connecting the Wasatch Front with Eastern Utah and, via its connection with Interstate 70, to Colorado and points east. Running alongside the road, river and railroad runs a similarly vital link in the form of telecommunications fiber trenched into the ground. Further down the canyon stands the Price River Water Improvement District's (PRWID) water treatment facility which supplies drinking water to most of the county and below that, Carbon Power Plant, a large employer in the area. Should floodwaters make it that far, there are many citizens downstream who would suffer direct damages to their properties as well as sustain interruptive life changes in the form of reduced or suspended water, travel, and communication. Located within the Southeastern Region of the Watershed Restoration Initiative (WRI), Carbon County is not the first to focus attention to this area. As part of the WMA Habitat Management Plan (HMP), DNR commissioned a Forest Stewardship Plan (FSP) prepared by the Division of Forestry, Fire and State Lands which outlines needed vegetation treatments the county

would like to see enacted. While the FSP does not specifically include the section of land previously owned by SITLA, they are contiguous and similar enough in topography to allow extrapolation of the FSP across the whole area. Improvements to the watershed and wildlife habitat as well as fuels reduction are expected outcomes of said treatments. This area is also part of the Beaver Creek Community Wildfire Protection Plan (CWPP). There are two additional CWPPs nearby higher up in the watershed. Both private land owners and the Bureau of Land Management (BLM) have completed treatments in this area and more are planned. It is safe to say that there is a consensus on need for action. While the treatment of this pilot area is a large undertaking, in the scope of all the areas in the watershed that need work, this pilot is but a step in the right direction. Plans and treatments on state-owned property alone are not sufficient in and of themselves as the State of Utah controls only a small portion of the land in this watershed. To this end, Carbon County enforces the Wildland Urban Interface (WUI) code through the State Division of Forestry, Fire, and State Lands, and Fire Wise defensible space practices are encouraged. Further, the County would like to capitalize on the many existing educational opportunities available through state and federal partners by helping to distribute existing educational materials and to provide access to demonstrations and education at appropriate venues throughout the coming years. Finally, it is fair to say that the recent Seeley Fire which burned in Carbon and surrounding counties took many people by surprise. Carbon County would like to understand the conditions surrounding that fire and understand the outcomes from a forensic point of view. While the conditions surrounding the fire were not ordinary, we should take the opportunity to partner with the many organizations involved to pool knowledge and data so that we can learn what to expect and perhaps how best to affect positive outcomes in extra-ordinary situations in the future. For the aforementioned reasons, Carbon County hereby petitions the State of Utah under the this Reduction Strategy Proposal for the sum of \$841,000 to aid in taking this first step in a journey to which we will all need to commit time and resources for many years to come if we are to reach our destination. Maps of the location of the areas discussed in this document along with links to supporting documentation may be found by directing your browser to: <http://maps.carbon.utah.gov/flexviewer/catastrophicfire/>

## Southwest Area Catastrophic Wildfire Report Executive Summary

The Southwest Regional Catastrophic Wildfire working group is comprised of 16 participants including: Ronald Wilson, Area Manager, FFSL, Chair; Alan Gardner, Washington County Commissioner; Jim Matson, Kane County Commissioner; David Miller, Iron County Commissioner; Leland Pollock, Garfield County Commissioner; Mark Whitney, Beaver County Commissioner; Mike Melton, Fire Management Officer, FFSL; Tooter Burdick; Fire Management Officer, Bureau of Land Management; Kevin Greenhalgh, Fire Management Officer, Dixie National Forest; Keith Adams, Fuels Coordinator, Dixie National Forest; Evan Vickers, State Senator; Victor Iverson, Senator Lee's Office; Brian Thiriot, Director Five County AOG; Tom Kuhlmann, Hurricane City Fire Chief; Chad Reid, Iron County Extension Agent; Tyce Palmer, Director UACD;

We were asked to provide information and proposed actions for a plan to reduce catastrophic wildfires in Utah. The group started meeting in May 2013 when we received direction, guiding principles, working group planning documents and information requirements from the central committee. We have met monthly since May and have received additional direction and updates to the planning information as we went along.

We selected one community or communities in each county as an example to show values at risk and actions to mitigate the risks and make the community a "fire adapted community". Following are the communities selected by the County Commissioners and fire personnel showing the number of acres to be treated and costs associated with the suite of actions:

### Washington County

The area selected is the Highway 18 corridor including the communities of Diamond Valley, Dammeron Valley, Veyo, Brookside and Central.

Acres to be treated – 34,843

Cost of Actions to mitigate threat - \$54.3 million

### Iron County

Community Selected - Brian Head

Acres to be treated – 8,875

Cost of Actions to mitigate threat - \$14.7 million

### Beaver County

Community Selected – North Creek

Acres to be treated – 55,000

Cost of Actions to mitigate threat - \$20 million

## Garfield County

Community Selected – Mammoth Creek

Acres to be treated – 41,000

Cost of Actions to mitigate threat - \$29.7 million

## Kane County

Community Selected – Duck Creek Area

Acres to be treated – 28,673 (Private Lands Only) - National Forest Lands to be included later.

Cost of Actions to mitigate threat – \$1.5 million (Private Lands Only)

The detailed information about the communities and the suite of actions to mitigate threat along with maps and other requested information is included in the attached report.

### **Barriers**

In addition to the above information we were asked to identify any significant barriers to reducing catastrophic wildfires. Following are eight issues we feel are barriers to the existing problem.

1. NEPA & Planning – The inability for the Federal Agencies to act in a timely manner and litigations from environmental groups.
2. Lack of a Biomass Market – If a viable biomass market could be developed it would greatly decrease the cost of fuels mitigation. There are companies such as Black Green that are beginning to show promise in this area. The State and Federal Governments should do everything possible to encourage and help these emerging companies in this endeavor.
3. Reduced Federal Funding – The Forest Service and BLM are seeing their fuels reduction funding and suppression funding in a significant decline. In addition most of the state fuels reduction money comes from federal grants which will also decline. If the present level of fuels reduction work is to continue the state will need to start funding this work.
4. Smoke Intolerance – Prescribed fire is the least costly mitigation treatment to reduce fuels. The general public has a growing intolerance to smoke and it is inhibiting the future use of this tool.
5. Private land owners apathy and difficulty in getting approval to reduce fuels on private land.
6. Lack of adequate suppression capacity and preparedness levels to keep fires small.
7. State statute changes – A new state statute needs to be formulated to provide a mechanism to fully fund the fire program and provide a way for incorporated municipalities to participate in the State insurance fund. Senator Vickers will be working with the Legislature on this issue.
8. Lack of a Comprehensive Education and Prevention Program – The Central Committee will be working on this issue.