

the final draft of the CWPP was reviewed by the core team and approved to be released for public comment in August. The public will have a 30 day comment period to review the plan and submit comments to the core team. The core team will review all comments and make appropriate changes to the plan before the final plan is approved.

Next Steps

As the DC CWPP process evolves it has become clear the best option to continue forward momentum and collaboration is to provide some uniformity throughout the county on implementing the recommendations in this plan. Therefore, the core team will transition to an implementation team on a voluntary basis. As with any CWPP the plan should be reviewed annually and updated as necessary and approved by the core team.

EXISTING SITUATION

History and Background

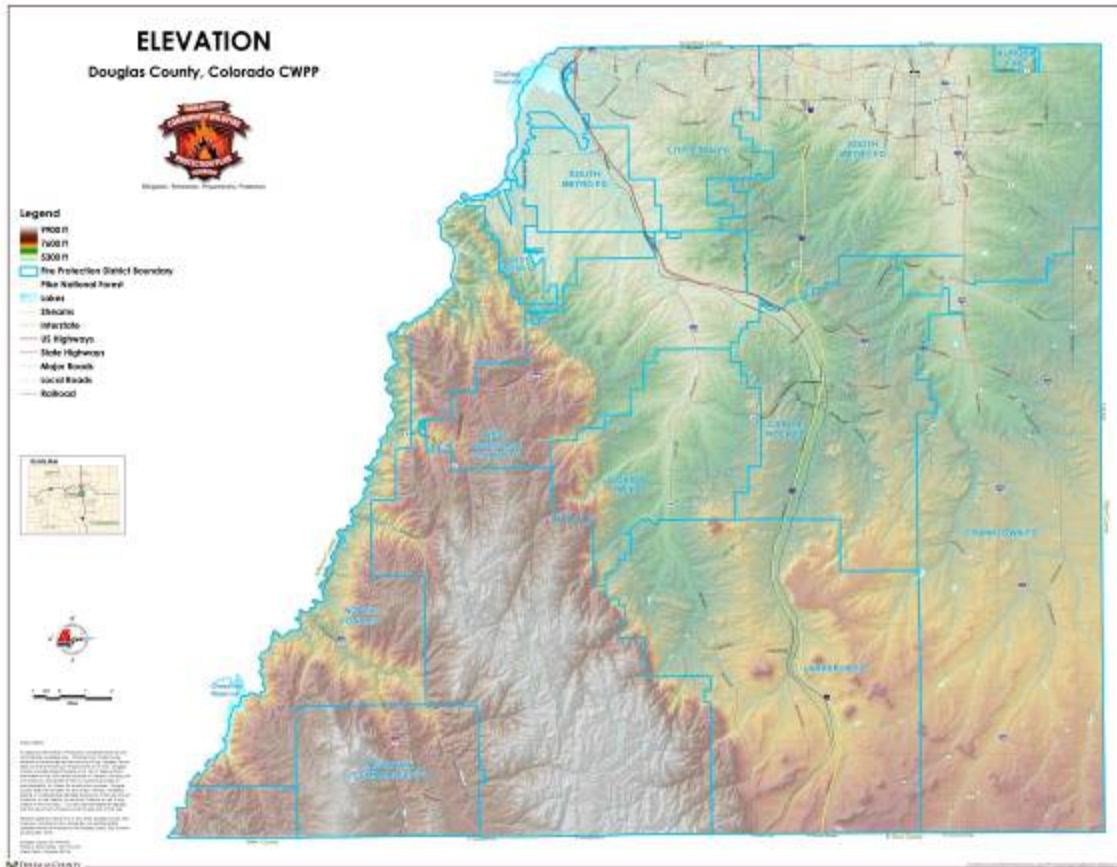
Colorado's Douglas County was originally established in 1861 along with 16 additional counties in the Colorado Territory by the Colorado Territorial Legislature. The county was named to honor U.S. Senator Stephen A Douglas of Illinois whose death preceded establishment of the county. Upon creation the county seat was Franktown and moved to California Ranch in 1863, and then again to Castle Rock in 1874 where it currently resides. Original boundaries of the County extended all the way to the Kansas state line (*Wikipedia.org, 2011*).

The region encompassing Douglas County was originally home to the Arapahoe and Cheyenne cultures. Members of these tribes inhabited the area between the Arkansas and South Platte Rivers. White settlers flocked to the area on rumors of gold and the ability to acquire land through homesteading. People continue to migrate into Douglas County for its unique character, available amenities, reputation for good schools, convenience to city centers and mountain recreation (*Wikipedia.org, 2011*).

Today, Douglas County consists of over 843 square miles. It is located approximately half way between Denver and Colorado Springs and serves as a bedroom community for both metropolitan areas. The traditional farming and ranching heritage of Douglas County has surrendered to rapid urbanization over the past two decades, but agriculture remains an important aspect of the county's economy and culture. Census figures estimate the county's population at 293,521 in 2010 with almost 90 percent of the people residing in the urban areas. With the rapid urbanization of population centers the county also experienced significant development in the WUI.

Topography/Land Characteristics

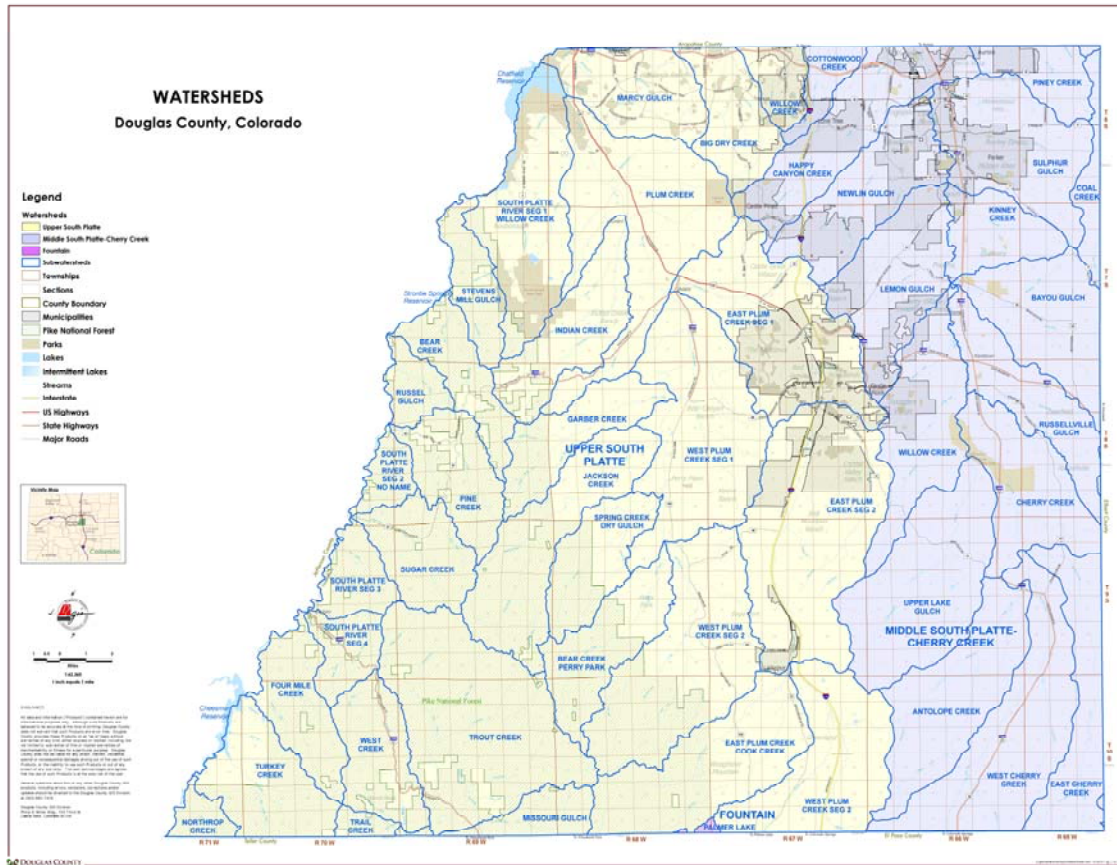
Land characteristics in Douglas County are diverse and include grassy plains and gently rolling hills, to steep slopes and sharply rising scenic buttes. Many areas are characterized by undulating terrain and deep arroyos. Elevations, which are shown on the map below range from roughly 5,360 feet to over 9,835 feet in areas of the Pike National Forest.



Douglas County Elevation Map

Watersheds

There is one major river, the South Fork of the South Platte, in the western portion of the county. The Upper South Platte Watershed encompasses approximately 1,000 square miles and supplies the Denver metropolitan area with 80 percent of its water via Strontia Springs Reservoir. This area is well known for its vast recreation opportunities and has been severely impacted by sedimentation following major wildland fires in the watershed since the Buffalo Creek Fire in 1996. Two major creeks run through Douglas County, Cherry Creek and Plum Creek. Plum Creek has two tributaries, East and West Plum Creek, which are part of the Chatfield drainage basin and empty into Chatfield Reservoir. Cherry Creek drains into the Cherry Creek basin and empties into Cherry Creek Reservoir. Watersheds for Douglas County are shown on the map below.



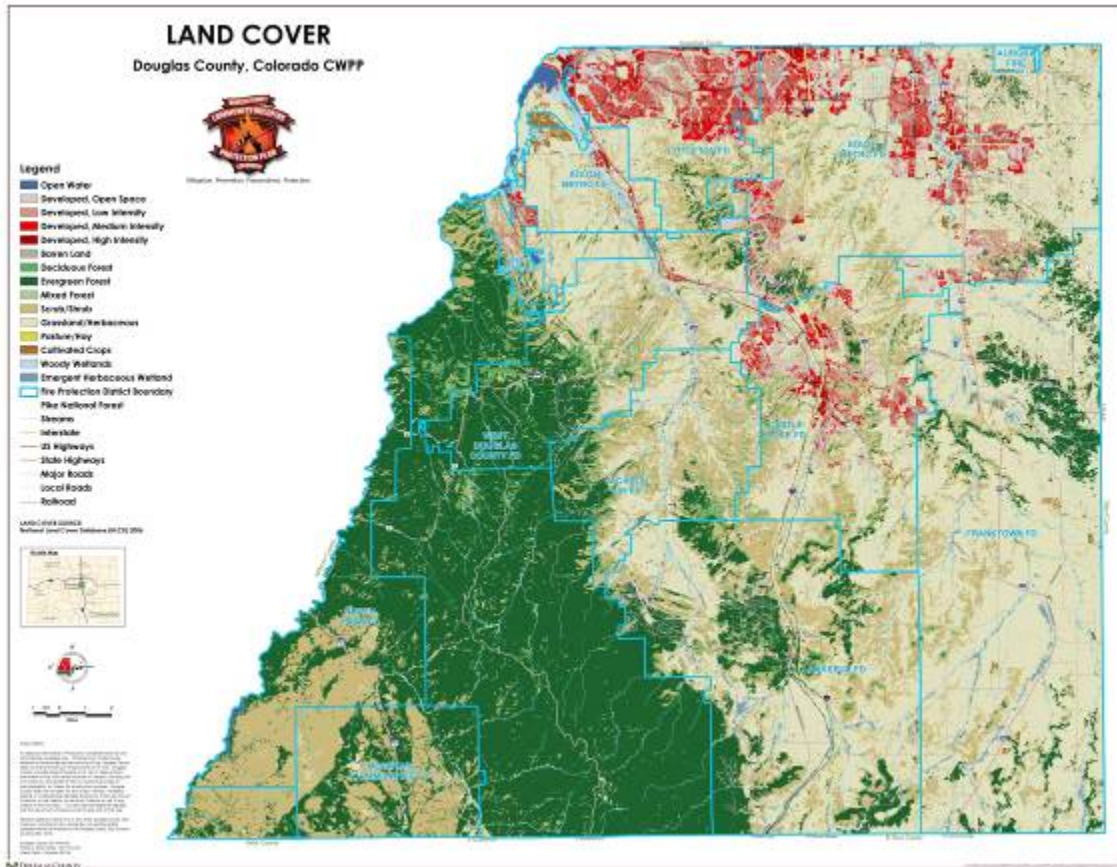
Douglas County Watersheds Map

Climate

Douglas County is a semi-arid climate with hot, dry summers, and cold dry winters. Average moisture records for Castle Rock (the county seat) indicate an average of 16.8 inches of moisture. Most of the moisture comes in the form of rain and most of it falls in May. Although snowfall averages 62.5 inches a year, it takes about 10 inches of snow to produce one inch of moisture. January is the coolest month and July is the warmest month. Average maximum temperature is 63.4 °F and the average low temperature is 31.2 °F. (*weather.com*, 2011)

Vegetation and Life Zones

Douglas County encompasses several life zone ecological communities including the plains life zone (3,500 feet to 5,500 feet), where grasses are the dominant vegetation, the foothills life zone (5,500 feet to 8,000 feet), which is dominated by Gambel oak and mountain mahogany and the lower montane life zone (6,000 feet to 9,000 feet) that dominated by ponderosa pine and Douglas-fir. Current land cover for Douglas County is shown on the map below.



Douglas County Land Cover Map

Current Vegetative Conditions

Current vegetative conditions consist of overstocked forest stands that contain a high number of small, suppressed and poorly formed trees. They also contain a higher level of both live and dead fuels accumulations. Many areas are in need of significant thinning and restorative efforts to reduce hazardous fuels loads, promote tree vigor, increase stand diversity, increase forest sustainability and ecosystem health.



Dense stand of small diameter ponderosa pine



Overstocked ponderosa pine stand

Many areas also contain unnatural accumulations of Gambel oak. The oak is dead, decadent, and contiguous. In its current condition the oak does not provide good wildlife habitat or forage and some densities are difficult for large ungulates to move through. The oak also acts as a ladder fuel carrying fires from the ground into the tops of the trees creating a crown fire situation which is difficult to control due to high flame lengths and fast rates of spread.



Unnatural oak accumulation



Accumulation of dead oak and pine

A significant portion of the vegetative conditions described in Douglas County is found in the WUI and intermix; the area where homes and vegetation come together. This current make up of hazardous fuels accumulations and structures is a result of several factors including a fire suppression policy dating back to the early 1900s, limited forest management, forest fragmentation and development. These practices have significantly altered the forest dynamics. Many citizens move to these areas in search of a peaceful, tranquil setting amongst what they consider a *natural* setting; however under present vegetative conditions nothing could be further from the truth. Douglas County citizens who reside in the WUI should understand that the vegetative environment they reside in evolved with periodic wildfires and is prone to burn again. Future fires may be more intense than historical fires because the vegetation is denser and the built environment is denser than a century ago. Property owners must be aware of the situation, and take

responsibility for the condition on their properties, and work to maximize the health of their ecosystem. Landowners who recognize the wildfire component of their ecosystems often become interested in learning about the programs and management initiatives that are being implemented across the Front Range to restore forest and ecosystem health. Resource professionals can provide information on collaborative opportunities and program initiatives that work to make communities safer from wildfire and restore a more natural and healthier ecosystem.

Historic Ponderosa Pine Conditions

The ponderosa pine ecosystem that encompasses much of the WUI in Douglas County is a fire dependent ecosystem. Historically naturally occurring fires burned frequently (every 30-70 years) in varying intensities across the landscape in Front Range ponderosa pine. Results of these fires left a diversity of size class and age ranges within the ponderosa pine ecosystem across the landscape with a mixture of live and dead fuels in some areas. A century of fire suppression and development has significantly increased the amount of fuels and reduced the amount of diversity of size and age classes. Today we are left with more overstocked, even aged forest crowded with many smaller suppressed trees. Left in this condition forests are susceptible to insect infestation and significant potential for catastrophic loss from wildland fire. Wildfire mitigation activities, such as thinning, will improve forest health, diversify forest stand structure, improve wildlife habitat and provide forests that are aesthetically pleasing and more representative of historical ponderosa pine forests.

For over a decade the emphasis of land management strategies in ponderosa pine has been to restore forested landscapes to a time in history where the forests were more diverse in terms of age, size, and numbers of trees which resulted in a healthier forest and ecosystem. Through the forest restoration management strategy land managers continue to try to mimic fire's role as a disturbance mechanism that shaped the Front Range ecosystem. Many areas throughout the county are involved with forest restoration strategies including county-owned lands, Denver Water, USFS SPRD, Colorado State Parks (CSP), and private lands.

Historic Gambel Oak

There is not a lot of research on historical conditions of Gambel oak. A technical report regarding the status of our knowledge of Gambel oak published by the Rocky Mountain Research station in 2008 found that overall Gambel oak densities have increased since Euro-American settlement and the practice of fire exclusion. Increases have been noted in the smaller to medium stem size, those 0-10 inches in stem diameter. Researchers believe that grazing and regular fire return intervals at lower elevations influenced the accumulation and distribution of Gambel oak across the landscape. Studies have shown that the spatial arrangement of oak today is much different from the evolutionary environment of open stands and frequent fires (Abella, 2008).

Older Developed Areas

Older developed areas of the county may be more at risk to potential loss from wildfire because of the increased amount of vegetation around homes and the construction materials of the structures. Many areas that were developed 30 or 40 years ago have fuels that have had little or no management, including defensible space. These areas also contain structures with wood shake roofing and combustible siding material. As Douglas County developed, advances were made in addressing the hazardous fuels with the required implementation of defensible space. The housing market and timing of construction reflected the use of more fire resistive building materials including stucco, stone, and cement siding material. Although defensible space requirements were implemented for new structures, efforts were made to raise awareness of the current wildfire hazard, encourage mitigation and the use of more fire resistive construction materials in the building process.

Douglas County Land Ownership

Douglas County is comprised of a mixture of privately and publicly owned lands. Publicly owned lands include the Pike National Forest, Roxborough State Park, Castlewood Canyon State Park, Chatfield State Park, Daniels Park, State Land Board, the Woodhouse property owned by the Colorado Division of Wildlife (DOW), Highlands Ranch Metro District (HRMD), Highlands Ranch Community Association (HRCA), and Douglas County Open Space deeded to the Board of County Commissioners. Douglas County encompasses 843 square miles, roughly 539,661 acres. Of those 539,661 acres 150,805 are either federally and State owned, 21,127 acres are owned by Douglas County, and 367,729 acres are held in private ownership. Many large tracts of land under both private and county ownership are protected from development through conservation easement. The Denver Water Board is a significant private landowner in the western part of the county. Denver Water parcels border a significant amount of US Forest Service and some private lands in the area. Ownership boundaries are displayed on the *Community Base Map*.

Wildland Fire Prevention

Fire prevention is a shared responsibility in Douglas County with a common goal to reduce the number of unwanted human caused fires and the deaths, injuries, and property loss associated with such fires. Agencies within Douglas County implement their own prevention program(s) based on their own needs. Most wildland fire prevention programs are based on the Smokey Bear Program, which includes signage, education materials, and appearances by Smokey Bear.

Douglas County accomplishes fire prevention goals through education and outreach in the Wildfire Mitigation Program and the Emergency Management Program. At times Douglas County may find it necessary to enter into fire restrictions to reduce the number of unwanted human caused fires. The county utilizes its website, The Network DC, the local cable channel, and printed material to educate and inform the citizens of Douglas County on the issues surrounding wildfire.

Fire Restrictions

When fire danger conditions warrant, agencies may choose to implement fire restrictions to reduce the potential for human caused fires. Prior to entering into fire restrictions federal, state and county agencies collaborate to assess the conditions and analyze the scientific data that influences fire behavior and decide on the appropriate measures to be taken. Data from the *Fire Restriction Evaluation Guidelines* (Appendix C) are monitored by cooperating agencies and are used as a guide to determine when and what level of fire restrictions to invoke. When Douglas County invokes fire restrictions it is through an ordinance by the Sheriff and the Board of County Commissioners (BOCC) usually at a business meeting. Each cooperating agency that enters into fire restrictions is responsible for enforcement of those restrictions on lands within their jurisdiction. Although all reasonable efforts are made for concurrence in fire restrictions across jurisdictions within the county this may not always be the case and differing levels of restrictions may be implemented on the National Forest Lands than in lands in unincorporated Douglas County.

Fire restrictions are usually implemented in stages: I, II, and III, and are more restrictive with each stage as more thresholds are met and the fire danger increases. There are slight differences in the allowable activities under each stage of restriction for federal lands and unincorporated lands in Douglas County. Federal regulations address campfires and smoking while county regulations address open burning and fireworks. Stage III is a closure and is only applicable to federal lands. The process for rescinding fire restrictions is essentially the same as entering fire restrictions. The same cooperating agencies collaborate with monitored scientific data to determine if the parameters for rescinding fire restrictions have been met.

The detailed process for entering and rescinding fire restrictions and the accompanying orders and ordinance are found in Appendix C.

Wildfire Preparedness

Each jurisdictional agency is responsible for fire suppression on its own lands. The Sheriff is responsible for wildland fire suppression in unincorporated areas of the county outside of a fire protection district or for a fire that exceeds the capabilities of a fire protection district subject to the limitations requirements under state statute CRS 22-22.5-103. The CSFS is the lead state agency responsible for wildfire management. In Douglas County, CSFS staff will respond to wildland fire incidents as requested/needed and will be available to respond to wildfires on state and private lands when requested by Douglas County.

Agencies within Douglas County work diligently to prepare for wildfire events both on their own and together through groups such as the Wildland Fire Coordinators and through the annual cooperative interface drill. The Douglas County Interface Drill is part of ongoing wildland fire training focusing on the wildland fire interface environment. First responders test their skills and their coordination efforts in an interface environment. These drills focus on the interoperability of the multiple fire jurisdictions. Because

wildland fire is a critical issue along the Front Range of Colorado, the ability to work together effectively in a multi-jurisdictional environment is essential. The interface drill affords opportunities for skills enhancement to Douglas County agencies as well as mutual aid partners outside of Douglas County.

Fire departments also participate in wildland fire training through nationally recognized coursework and some departments respond to fires outside of Douglas County to improve their skills in fire suppression and incident management.

Annual Fire Operating Plan (AOP)

The AOP is a formal agreement between the CSFS, Douglas County (Douglas County Sheriff and the Board of County Commissioners (BOCC), and the United States Forest Service Pike /San Isabel National Forest and Comanche/Cimarron National Grasslands (PSICC). The plan identifies standard procedures and responsibilities, including fiscal responsibilities, which each agency has agreed to for cooperative wildfire protection on all lands in Douglas County. The AOP also contains supporting cooperative agreements as attachments that enable the county to access federal wildland firefighting resources and state emergency fire funding. The plan must be signed annually by all parties involved and must be approved by the BOCC at a business meeting.

Remote Automated Weather Station (RAWS)

There are nearly 2,200 interagency Remote Automated Weather Stations (RAWS) strategically located throughout the United States. These stations monitor the weather and provide weather data that assists fire departments, emergency managers, and land management agencies with a variety of projects such as monitoring air quality, rating fire danger, and providing information for research applications.

Douglas County owns a station that is located in Franktown and monitors stations owned by the United States Forest Service (USFS) in the Pike National Forest. RAWS units collect, store, and forward data to a computer system at the National Interagency Fire Center (NIFC). Fire managers, including Douglas County Office of Emergency Management and fire protection districts, use this data to predict fire behavior and monitor fuels. The data allows agencies to plan for appropriate responses to wildland fires, based upon the daily readings from the weather station. RAWS data is also used as part of the decision process to determine when to implement fire restrictions. Locations and data from RAWS stations can be searched online at www.wfas.net.

Wildfire Mitigation

Hazards and risks associated with wildfire and wildfire response in Douglas County are recognized by all 11 cooperating fire protection districts, the Douglas County Office of Emergency Management, the Douglas County Sheriff, the leadership and administration at Douglas County, the Douglas County Wildfire Mitigation Staff, the CSFS, and the Pike National Forest staff. All agencies play a cooperative role in identifying strategies to reduce hazards and risks associated with wildland fire and have made significant strides

with wildland fire issues including prevention, mitigation, and response in Douglas County.

Douglas County Wildfire Mitigation Program

The Douglas County Wildfire Mitigation Program is multifaceted and consists of regulation, including development review, public education and outreach including active roles in collaborative partnerships, and natural resources consulting. The program has grown significantly since its inception in 1994 and has changed to meet the needs of the citizens of Douglas County and the natural resources professionals and organizations the county conducts business with across the state and region. The program is staffed by one professional forester and is housed in the Building Division of the Community Planning and Sustainable Development Department.

Regulation

Douglas County recognized the need to make all reasonable efforts to protect its citizens from the potential dangers and damages of wildfire in the early 1990s and in 1994 developed and adopted regulations for the protection of life and property in the WUI. In 1995, Douglas County developed and adopted regulations for water storage for rural fire fighting. Both regulations were adopted as Appendix Chapters to the adopted Building Code and therefore the wildfire mitigation program is administered by the Building Division and the Chief Building Official (CBO) is the Authority Having Jurisdiction (AHJ).

The wildfire mitigation program began in 1994 with the adoption of Appendix Chapter 58 of the UBC (now the IBC), National Fire Protection Association (NFPA) 299; *Standard for Protection of Life and Property from Wildfire* as amended and adopted by Douglas County. These regulations were a collaborative effort led by the CBO and the 13 participating fire districts at the time. Efforts were complemented by input from the CSFS, DC Fire Chiefs Association, DCOEP (which is now the Office of Emergency Management), DC Engineering and DC Planning Staff and additional stakeholder input. The participating entities amended the 1991 version of NFPA 299, identifying the minimum standards for:

- Access
- Structure Design
- Water Supply
- Defensible Space

These amendments to the standard were designed to fit the needs of the local geographic area, citizenry, and the interrelated business practices of Douglas County. Since the inception of the regulations they have been updated and amended several times to reflect needed changes. The latest and most significant changes occurred in 2008. With the updates in 2008 the regulations changed names and are now named *The Douglas County Wildfire Mitigation Standards*. The mitigation standards are based on two recognized codes including NFPA and the International Code Council (ICC), and the CSFS defensible space guidelines.

In 1995, Douglas County adopted Appendix Chapter 59 of the UBC (now the IBC), *Standard for Water Supplies for Rural Fire Fighting*. This standard identifies minimum requirements for water supplies for the protection of property in the rural areas of Douglas County. These standards are applicable when four or more parcels are created. The minimum requirements include:

- Minimum water supply and location (30,000 gallons within two road miles of the furthest driveway)
- Minimum flow requirements (250 GPM for two hours)
- Minimum design standards for cisterns and natural bodies of water
- Minimum standards for water supply access
- Minimum requirements for testing and maintenance

The requirements in Appendix Chapter 59 are designed to assist local firefighting efforts where water needs to be brought in for firefighting. Through implementation of this regulation Douglas County has been able to acquire water supplies (cisterns, lakes, ponds) throughout the county. As appendix chapters to the building code the regulations are re-adopted every three years with the standard updates to the building code as building codes are on a three-year code cycle.

Wildfire Hazard Overlay District

In 1999, Douglas County recognized the need to bring wildfire mitigation and forest management issues related to wildfire to the forefront of the land use process. Douglas County needed to raise awareness of wildfire hazards and risks and the requirement for implementing mitigation strategies to reduce hazards in the WUI on a development-wide scale. Identifying mitigation requirements early on in the design phase potentially reduced conflicts regarding vegetation modification and removal. In response to this need Douglas County created the Wildfire Hazard Overlay District, a Zoning Overlay District to raise awareness and provide protections for citizens on the front end of the land use process. Implementation of this overlay district placed more of the responsibility of mitigating hazards (hazardous fuels reduction) on the developer instead of placing all of the responsibility, fiduciary and regulatory, on the property purchaser after the development was created. More importantly it provided the mechanism for a more uniform and more effective approach to mitigation throughout a development.

Mitigating on a development-wide scale incorporates hazardous fuel reduction into the development infrastructure including perimeter fuelbreaks and development-wide thinning. These efforts are then complemented by defensible space requirements as structures are permitted and completed in the development. Often people moving to the area become emotionally attached to trees and brush, especially if they have relocated from areas without trees. People tend not to miss trees and brush when they are treated prior to lots being sold.

The Douglas County Wildfire Mitigation Staff is a separate referral agency for all proposed developments. The staff rates proposed developments using the wildfire mitigation standards to develop a hazard rating. If the development rates a 16 or higher

the development must comply with the wildfire mitigation standards. If the staff determines that conditions warrant requirement of a wildfire mitigation and/or forest management plan, the applicant must submit a mitigation or forest management plan for review and approval by the mitigation staff. The plan must be written by a professional forester with experience in the Rocky Mountain Region and eligible for professional membership in the Society of American Foresters (SAF). The approved plan must then be implemented and all activities must be completed prior to being eligible for building permits. Plans need to identify current conditions, how hazardous fuels will be reduced and to what standard. The development-wide hazardous fuels reduction activities are then complemented by defensible space requirements for each building permit.

Defensible space requirements are implemented on a building permit basis. When a building permit is applied for a preliminary defensible space inspection is required. From this inspection a wildfire hazard assessment is generated if conditions warrant. The mitigation requirements identified in the hazard assessment must then be implemented. A final defensible space inspection is required and must be approved prior to receiving a Certificate of Occupancy (C.O.) for a residential structure or a Certificate of Completion for an accessory structure.

Public Education and Outreach

The Douglas County Wildfire Mitigation Program provides education and outreach through several venues including:

- Wildfire mitigation website
- Distribution of printed materials
- No-cost on-site wildfire hazard assessments
- Public Service Announcements (PSA)
- Special appearances and requests for technical input and presentations at public venues

In addition to presentations at HOA meetings the wildfire mitigation staff presents at professional conferences. Recently the mitigation staff presented the Douglas County Wildfire Mitigation Program as a case study at the Rocky Mountain Land Use Institute 20th Anniversary Conference in the early spring of 2011 hosted by the Sturm College of Law at the University of Denver.

The Douglas County Wildfire Mitigation Program website is dynamic and stays current with program activities. The mitigation staff provides the public a snapshot of the complexities of the program so that constituents of Douglas County can get questions answered, know where to go for additional information, and raise awareness regarding wildfire issues. The site is geared towards the landowner but also contains technical information and additional references.

The wildfire mitigation staff works diligently to educate themselves with current trends and practices. Staff members are professional members of SAF and attend local

workshops and fieldtrips sponsored by SAF and other forestry professionals. They attend regional and national conferences when funding and time permit.

The wildfire mitigation staff represents Douglas County on several local and regional collaborative partnerships focusing on all aspects of forest management, policy and legislation. These groups include the Pikes Peak Wildfire Prevention Partners (PPWPP), The Front Range Fuels Roundtable (FRRT), and the Coalition for the Upper South Platte (CUSP). The staff actively participates in these collaborative partnerships to achieve forest management (restoration and mitigation) goals along the Front Range. They also work to inform and educate policy makers on proposed legislation and policy direction of other land management organizations and governmental entities involved in forest management and wildfire mitigation activities.

Other Mitigation Education Programs

Fire protection districts, communities, and other agencies utilize various wildfire mitigation education programs including Are You FireWise?, FireWise Communities, and Ready, Set, Go!

Are You FireWise?

The CSFS, in partnership with Larimer County and Poudre Fire Authority, developed Colorado's Are You FireWise? guidelines. Subsequently, these guidelines were adapted for homeowners and landowners living on Colorado's plains.

Many people don't realize that they face serious wildfire danger. But if you live in the foothills, grasslands or mountains of Colorado, you are at risk! Compounding the problem is the exploding population in once-rural areas surrounding municipalities. The result is that more homes and more lives are potentially threatened by wildfire every year.

To be FireWise, you must carry out certain fire-protection measures before a fire even starts. By following the fire-safety guidelines listed here, your home will have a chance to survive while firefighters work to bring the wildfire under control. Remember, a fire department's effectiveness in battling a wildfire starts with YOU!

(www.csfs.colostate.edu/pages/wf-protection.html#firewise,2011)

FireWise Communities

The National Fire Protection Association's (NFPA) Firewise Communities program encourages local solutions for wildfire safety by involving homeowners, community leaders, planners, developers, firefighters, and others in the effort to protect people and property from the risk of wildfire. The program is co-sponsored by the USDA Forest Service, the US Department of the Interior, and the National Association of State Foresters.

To save lives and property from wildfire, NFPA's Firewise Communities program teaches people how to adapt to living with wildfire and encourages neighbors to work together and take action now to prevent losses. We all have a role to play in protecting ourselves and each other from the risk of wildfire. (www.firewise.org, 2011)

Ready, Set, Go!

The Ready, Set, Go! Program utilizes firefighters to teach individuals who live in high risk wildfire areas and the wildland-urban-interface (WUI) how to best prepare themselves and their properties against fire threats. Ready, Set, Go! works in complimentary and collaborative fashion with Firewise and other existing wildland fire public education efforts. It amplifies their messages to individuals to better achieve the common goal we all share of fire-adapted communities.

The RSG program provides the implementation guidance; background knowledge; and presentation tools to assist fire departments in delivering the program message:

- **Ready – Preparing for the Fire Threat:** *Take personal responsibility and prepare long before the threat of a wildfire so your home is ready in case of a fire. Create defensible space by clearing brush away from your home. Use fire-resistant landscaping and harden your home with fire-safe construction measures. Assemble emergency supplies and belongings in a safe spot. Make sure all residents residing within the home are on the same page, plan escape routes.*

- **Set – Situational Awareness When a Fire Starts:** *Pack your vehicle with your emergency items. Stay aware of the latest news from local media and your local fire department for updated information on the fire.*

- **Go – Leave early!** *Following your Action Plan makes you prepared and firefighters are now able to best maneuver the wildfire and ensuring you and your family's safety.* (www.wildlandfirersg.org, 2011)

Mitigating Wildfire Hazards Through Active Forest Management and Stewardship

Through implementation and support of the Douglas County Mission Statement and its commitment to stewardship of our natural resources, Douglas County works to reduce fire hazards and potential for catastrophic loss through active forest management of its forested open space parcels, including Spruce Mountain and Dawson Butte Ranch. Douglas County has acquired several forested parcels of open space. The land is owned by Douglas County and some parcels are held in conservation easement by several conservation organizations. These large tracts of forested open space meet the goals and objectives of the Open Space Master Plan of 1998 and provide multi-use recreational opportunities.

Spruce Mountain Open Space

The Spruce Mountain Open Space parcel is one of two actively managed forested parcels. The parcel was acquired in part through a Forest Legacy grant. The Forest Legacy

Program protects working forests; lands that protect water quality, provide wildlife habitat, forest products, recreation opportunities, other public benefits, and reduce forest fragmentation. Landowners who voluntarily participate in the Forest Legacy program must follow an approved Forest Management Plan (FMP). The plan is approved by the CSFS and the easement monitoring is completed by the CSFS to ensure the terms of the easement are not violated and the management activities are consistent with the plan and the intent of the program. The conservation easement that encompasses the part of the Forest Legacy property at Spruce Mountain is currently being transferred to the CSFS. The property outside of the Forest Legacy section is held in conservation easement by two additional conservation organizations, Douglas County Land Conservancy and The Conservation Fund.



Treatment area on top of Spruce Mountain



Mixed conifer stand

Efforts have been taken to reduce the hazards and improve forest health and sustainability on top of the mountain through a series of small forest management projects including a cleanup of concentrations of dead material, eradication of dwarf mistletoe and a thinning project on the mesa top. Additional forest management projects are planned following the management plan to improve forest health and reduce the wildfire hazards.

Dawson Butte Ranch Open Space

Dawson Butte Ranch Open Space is another property under active forest management to reduce hazardous fuels, prevent catastrophic loss from wildfire, and improve forest health while balancing sustainability goals in a recreation area. The Dawson Butte Ranch Open Space parcel is an 836 acre parcel. The parcel contains a 20 acre life estate centrally located within the property. Douglas County purchased the property in a series of transactions dating back to 2004. The property had suffered significant storm damage from heavy wet snows in both 2003 and 2006. Limited forest management activity had taken place on the property. Heavy concentrations of hazardous fuels, dead and down

material and standing dead, as well as heavy oak with a significant dead component were present throughout the property. Acquisition of the property meets goals of the Open Space Master Plan of 1998 and management is supported through the Douglas County Mission Statement of being sound stewards of our natural resources. This parcel is also held in conservation easement to ensure the property is never developed. The property also contains a multi-use recreational trail and receives significant use.

In 2009, a forest management project aimed at forest sustainability by reducing hazardous fuels loading, thinning to prevent insect infestation, increase tree vigor, reduce competition, and enhance wildlife habitat was completed. The county received a \$50,000 grant from the CSFS to help offset the cost of the project. Through these efforts Douglas County was able to treat 190 acres. The project underwent an independent review and was determined to meet the goals and objectives identified in the project proposal and the long term management strategies.



Dawson Butte Ranch storm damage



Dawson Butte Ranch after thinning

Colorado State Parks

Colorado State Parks implements a hazardous fuels reduction program on lands they manage. They often contract with the CSFS for professional and technical expertise and on a special project basis to implement hazardous fuels reduction and forest management activities. Forest management projects have been completed in Roxborough State Park utilizing FEMA and Front Range Fuels Treatment Partnership grant funds. A 214-acre project was completed in 2008 to create fuelbreaks, break up contiguous stands of oak, and perform a general forest thinning to reduce ladder fuels and improve forest health. At the same time, 169 acres were treated northeast of the Park on Denver Water lands. A defensible space project was completed in 2008 around the Visitor's Center and significant fuels reduction along the emergency egress route south of the Roxborough

community was completed in 2009. The USFS has treatments planned on their lands adjoining Roxborough State Park, which will provide a good example of landscape scale treatments across boundaries. A fuels reduction project is planned for Castlewood Canyon State Park in fall 2011.

Colorado State Forest Service

The CSFS is the lead state agency for forestry and wildfire management. The agency is comprised of professional foresters and is part of the Warner College of Natural Resources at Colorado State University. CSFS is responsible for management on state-owned lands that contain forested components. The CSFS works cooperatively with private landowners and communities on forest management and wildfire mitigation projects by providing technical expertise and grant funding. In addition they work with federal partners to implement forestry projects across jurisdictional boundaries. Denver Water Board contracts with the CSFS to plan, prepare, and implement all forest management activities on lands Denver Water owns and manages. Over 30,000 acres have been treated on Denver Water and USFS lands in the Upper South Platte Watershed through the Upper South Platte Watershed Protection Project.

The CSFS works closely with the USFS and private landowners in the WUI to complete landscape scale projects to protect valuable watersheds, forest resources, and other structural and intrinsic values. They are instrumental in completing large projects through their role in the Front Range Fuels Treatment Partnership (FRFTP) and implementing the Good Neighbor Authority, which allows continued work on USFS lands where similar treatments are occurring on private lands adjacent to USFS property.

CSFS works closely with landowners to provide technical assistance in carrying out their land management goals through the Forest Agricultural Program and stewardship planning.

USDA Forest Service

Congress established the U.S. Forest Service in 1905 to provide quality water and timber for the Nation's benefit. Over the years, the public has expanded the list of what they want from national forests and grasslands. Congress responded by directing the Forest Service to manage national forests for additional multiple uses and benefits and for the sustained yield of renewable resources such as water, forage, wildlife, wood, and recreation. Multiple use means managing resources under the best combination of uses to benefit the American people while ensuring the productivity of the land and protecting the quality of the environment.

The USFS manages approximately 141,000 acres of public land in Douglas County, or about 26% of the total land base. Those lands within the Upper South Platte Watershed are part of the Upper South Platte Watershed Protection and Restoration Project (USPWPRP). The USPWPRP is a long-term partnership between the U. S. Forest Service, CSFS, Denver Water Board, and other federal, state, and local stakeholders. The goals of the USPWPRP are to protect water quality for all users, reduce risks of large

catastrophic wildfires, reduce risks to human life and property, create sustainable forest conditions in the Upper South Platte river basin, and integrate research, monitoring, and management. To date, forest restoration and hazardous fuel reduction treatments have been accomplished on about 15,400 acres of federal lands in Douglas County. Over the next five to ten years, another 10,800 acres are planned for treatment.

Fire Protection Districts

Over the years various fire protection districts have sponsored local fire mitigation projects including community chipping days and demonstration sites. In 2010-11, Larkspur Fire Protection District was able to fund a wildfire mitigation crew through an American Recovery and Reinvestment Act (ARRA) grant awarded to Perry Park. The crew performed mitigation work in Perry Park, including pile burning.

Communities and Landowner Activities

Many communities and landowners within Douglas County have completed or are currently involved with forest management and wildfire mitigation activities. Some have received grants through the CSFS to implement existing CWPPs while others have either paid for the work themselves or received grant funding. Communities also have taken steps to include wildfire mitigation as a line item in their annual budgets to treat community-owned lands.

The Highlands Ranch Metro District (HRMD) manages the open space tracts in Highlands Ranch. The HRMD completed an assessment of the open space tracts in conjunction with the CSFS and Littleton Fire Protection District. The HRMD completes an annual mowing program and is a resource for residents within Highlands Ranch. The park staff is red-carded and has participated in Firewise training.

The Highlands Ranch Community Association (HRCA) manages the Backcountry wilderness. This large tract of open space has been assessed by the HRCA staff, Littleton Fire Protection District, and representatives from the CSFS. Hazardous fuels reduction projects are often completed with volunteer efforts. The Douglas County CWPP and staff provide resources and opportunities to partner on future hazardous fuels reduction projects.

Prescribed Fire

The use of prescribed fire as a management tool in Douglas County is increasing. To date prescribed fire has been limited to grass fuel type on county-owned lands while the USFS SPRD and CSFS have been using prescribed fire in forested areas that have been treated with forest restoration prescriptions. With the increased use of prescribed fire more members of the fire service are afforded an opportunity to train in a wildland fire setting with cooperating resources. With the assistance of the participating fire districts and other resources from neighboring counties Douglas County has implemented prescribed burning on some open space parcels. All prescribed burns performed on USFS, Denver Water, and county-owned lands are done under the direction of a burn plan that meets the

required elements of the *Interagency Prescribed Fire Planning and Implementation Procedures Guide*. Additional procedures are identified in Section 4 of the AOP.

Prescribed fire can be a cost effective fuels management tool when implemented correctly. One of the difficulties with implementing prescribed burning is the permitting requirements that must be met under Colorado Department of Health and Environment (CDPHE), Air Pollution Control Division (APCD) Regulation 9, Smoke Management. Smoke management in Colorado is a complex issue as many areas in Colorado, including Douglas County, are located in the Denver metropolitan air shed which is under a monitoring and maintenance plan for exceeding National Ambient Air Quality Standards (NAAQS) for several pollutants including Carbon Monoxide, Ozone, and PM 10 (www.cdphe.state.co.us, 2011). Land management agencies and the fire community participating and advocating for prescribed fire activities are working closely with smoke management experts and program managers to successfully implement prescribed fire while protecting public health and the environment from the effects of smoke.

Existing Community Wildfire Protection Plans (CWPPs)

Community Wildfire Protection Plan Scales

In Douglas County several differing scales of CWPPs can be found ranging from county-wide plans to local-level plans. The DC CWPP is a county-wide plan, encompassing all areas within the county boundaries and extending an opportunity for all citizens to contribute as stakeholders. Currently a county-wide plan is the largest scale plan in existence within the State of Colorado.

A county-wide plan is intended to be an *umbrella* plan and is a birds-eye view. The implementation plan associated with a plan of this scale may be more conceptual and programmatic in nature. The plan identifies the spatial arrangement of ranked hazard areas within county boundaries. The plan is a coarse-scale plan and looks at the relationship of hazard area, hazard ranking and location, and proposed landscape scale fuels treatments across the county for a more strategic planning effort. For a plan of this scale communities may be designated/identified/grouped together in larger groups by similar fuel types, terrain, etc. Plans of larger scale often offer more opportunities for more traditional types of landscape scale fuels treatment projects such as cross boundary fuelbreaks. Umbrella plans of this type are good at providing background information and process guidance for smaller level plans.

The next scale of existing plans in Douglas County is a fire protection district plan. The fire protection district plan is also a coarse-scale umbrella plan, but covering a smaller geographic area. Typically plans on this scale also identify communities on a closer level and contain more detailed community information associated with the identified and ranked hazard levels. These plans usually contain a higher level of specificity for proposed community projects or department goals and objectives associated with the plan. Umbrella plans are used to raise awareness and motivate residents within communities to work together to complete a local-level CWPP specific to their community.

The final scale of existing plans in Douglas County are local-level plans, which are typically a neighborhood, HOA or multiple HOA efforts where the fuels and topography are similar and residents can work together to develop an appropriate plan. Local-level plans are site specific and members of the local community take ownership of the CWPP process and of the implementation of projects identified in the plan. The projects are located within the community or on the boundaries and have a direct impact on the residents of the community. Like all good local causes a project champion or leader usually identifies themselves to begin the CWPP process. Most local-level plans are initiated by efforts of community residents who share awareness for threats associated with wildfire and who have taken steps to mitigate their properties. Local-level plans are a great tool to motivate residents to get involved in community projects that raise awareness and reduce hazards and risks associated with wildfire in and around the community. The most successful local-level plans are those with grass roots efforts, community commitment, and funding or fiscal appropriation towards meeting goals and objectives identified in the plan.

Successful planning efforts need to be followed with a commitment implementation. Completing a CWPP is only the first step. Often implementation requires the dedication of resources such as time, people, funding and support.

Existing Community Wildfire Protection Plans (CWPPs)

In Douglas County several organizations and communities have recognized the need and value of a CWPP and have initiated and/or completed the CWPP process. For many communities a CWPP is a way to formalize mitigation activities already taking place. Completion of a CWPP also formalizes the commitment and identifies the road map to continue these activities. Completion of the local-level CWPP allows communities to compete for grant funding which is often a stumbling block for communities to be able to complete and sustain mitigation efforts on a larger scale. Many communities have implemented mitigation activities and completed priority projects reflected in their respective CWPPs. There has also been significant mitigation, forest thinning, and hazardous fuels reduction work completed throughout the county that is not identified in a CWPP. All approved CWPPs in the State of Colorado can be found on the CSFS website at <http://csfs.colostate.edu/pages/CommunityWildfireProtectionPlans.html>

Below is a summary of local-level and fire protection district level CWPPs that have been completed within the county. The communities are graphically displayed on the *Existing Community Wildfire Protection Plans Map* following this section.

- **2004:** The **South Platte** CWPP addressed USFS, Denver Water, and private lands along the South Platte River. Treatment in both plans primarily focused on USFS and Denver Water lands as they are the major landowners in the area. Approximately 50% of the treatments have been implemented.

- **2005:** The **Perry Park Ranch** community was the first community in Douglas County to complete a CWPP and continues to make significant efforts towards reducing the hazards in and around the community. They have partnered with surrounding properties including the Haystack Ranch and the USFS SPRD to be able to work on perimeter fuelbreaks. Perry Park along with Larkspur Fire Protection District received ARRA funding to further mitigation activities. They are a nationally recognized FireWise Communities/USA community.
- **2007:** The **Pine Ridge** community now located within the City of Castle Pines, completed their CWPP and a significant amount of work in 2007 and residents are now focusing on maintenance of the mitigated fuels.
- **2007:** The **Roxborough Park** community continues to implement hazardous fuels reduction projects. The Roxborough Park Foundation contributes annual funding for projects identified in the CWPP. They are a nationally recognized FireWise Communities/USA community.
- **2007:** The **Woodmoor Mountain** community is re-initiating community efforts to implement activities in their CWPP.
- **2007:** **Woodlands Escavera** has utilized grant funding and matching Metropolitan District funding to complete annual community mitigation efforts since their plan was completed. They are a nationally recognized FireWise Communities/USA community.
- **2008:** **Happy Canyon** continues to build on previous mitigation efforts. They recently completed a 40+ acre project with ARRA funding. The project included four demonstration sites.
- **2008:** **Hidden Village** continues to work on gaining support for mitigation. The community completed some initial activities after the plan was completed.
- **2008:** The **Burning Tree Ranch** community completed significant community-wide hazardous fuels reduction including several demonstration sites utilizing grant funding, landowner funding, and volunteer labor.
- **2010:** The **South Metro Fire Rescue Authority (SMFRA)** CWPP is currently the largest scale plan that exists within the county. The district plan serves as an umbrella plan for the entire fire district and focuses on conceptual activities. From this plan SMFRA has worked with several communities identified in the plan to create a more specific local-level plan containing a higher level of detail specific to that community. These local-level plans are then attached as an addendum to the larger umbrella plan. These localized efforts are the key to grass roots efforts and increased local support to carry on mitigation efforts. When SMFRA began their CWPP efforts three local-level plans in the district were complete. They were Pine Ridge, Happy Canyon, and Hidden Village. Since the completion of the

SMFRA CWPP, the Castle Pines North CWPP and Plum Valley Heights CWPP have been completed. A local-level CWPP for Surrey Ridge, The Pinery, High Prairie Farms and The Timbers, and Misty Pines are in the development stages and nearing completion. Without the continued efforts, guidance, enthusiasm and dedication of SMFRA staff, grass roots momentum for local level plans would be slow or may not exist at all.

- **2010: Castle Pines North** plan serves the citizens and landowners in several communities within the incorporated boundaries of the City of Castle Pines. They are in the process of re-initiating community efforts.
- **2010: Plum Valley Heights** is in the process of implementing activities in their plan.
- **2011: North Fork FPD** serves residents in both Douglas and Jefferson Counties. Douglas County staff worked with staff from the Jefferson Conservation District and Jefferson County and other state and federal plan cooperators to complete this revision of an earlier 2007 CWPP.

The following CWPPs are in development:

- **The Pinery**
- **The Timbers and High Prairie Farms**
- **Surrey Ridge**
- **Perry Pines.** The Perry Pines plan serves residents of Perry Pines and Bellum Pines.
- **Valley Park**
- **Misty Pines**

