



4/5 Scanned &
emailed to Owen.

Boulder County Parks and Open Space
5201 St. Vrain Road • Longmont, CO 80503
Phone: (303) 678-6200 • Fax: (303) 678-6179

April 1, 2011

Agency Submitted to:

Colorado State Forest Service
Attn: Jane Lopez
Solo Campus Delivery
Bldg 1049
Ft. Collins CO 80523-
5000
530943-011

Grant Number/Project:

Enclosed:

X

Grant Agreement

Due Diligence

Other: _____

Thanks
Jane!

Comments:

Please direct any comments or questions to:

Bridgette McCarthy
Grant Coordinator
Boulder County Parks and Open Space
303-678-6276
bmccarthy@co.boulder.co.us
5201 St. Vrain Road
Longmont, Co 80503

**Financial Assistance Program
Cooperative Match Project**

To be conducted by: Boulder County.

Project Number: 530943-011

Estimated Project Cost: \$ 200,000

Funding provided by CSFS: \$ 100,000

Minimum Recipient Match: \$ 100,000

Project to be completed by: September 1, 2011

Based on the strength of the application submitted by Boulder County, the Colorado State Forest Service is providing funding in the amount up to but not exceeding \$100,000 to accomplish the project described in the attached scope of work.

As the cooperator, Boulder County, will be reimbursed for actual (hard dollars spent) costs incurred in implementing the project up to the amount listed above once the following requirements are met:

- A. Complete work as described in "Attachment A" (scope of work).
- B. Provide documentation that project funds have been matched at a minimum ratio of 1:1.

Complete and submit through the local CSFS District Office periodic Grant Report(s)/Reimbursement Request(s) using the form provided in "Attachment B", as needed, and a Final Report that provides details on expenditures and accomplishments as a result of this project. Submission to :

CSFS-SO-Bldg. 1049
5060 Campus Delivery-Building 1049
Fort Collins, CO 80523-5060

- C. Certify that neither the cooperator nor any principals represented herein are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any federal department or agency.

This funding will remain available until September 1, 2011. There is no extension available for this project.

As a representative of the cooperator, I have read and understand the conditions of participating in this cooperative match project.

Cooperator Signature:

Ben Pearlman

Date:

3/31/11

Boulder County
ATTN: Chad Julian
5201 St. Vrain Road
Longmont, CO 80503

Telephone Number: 303-678-6202

Email Address: cjulian@bouldercounty.org

Fax: 303-678-6179

Ben Pearlman
Chair, Board of
County Commissioners

EXHIBIT A
Financial Assistance Program
Cooperative Match Project
SCOPE OF WORK

Project Number: 530943-011

Cooperator: Boulder County

Work to be completed: This area was identified in the 1996 North Foothills Management Plan for fuels treatment and was also highlighted as needing treatment in a CSFS report by the Boulder district in 1998. Grant funds will be used to pay contractors and seasonal staff to perform thinning operations; the contract will be managed by BCPOS staff; County Youth Corps will be used for rehabilitation work. Treatment:

- * Reducing basal area/acre of ponderosa pine < 18" dbh to 30-50 sq. ft/acre.
- * Retain all trees > 18" dbh or that exhibit characteristics of pre-settlement trees.
- * Retain Rocky Mountain juniper and Douglas-fir where it is not a ladder fuel for ponderosa pine.
- * Maintain a canopy cover < 30%.
- * Prevent ponderosa pine encroachment in designated meadows.
- * Maintain or create 50-80 linear ft. of large downed logs > 10" dbh.
- * Create or maintain openings of 1/4 to 2 acres in size and irregular in shape.
- * Continue to maintain wildlife cover as prescribed by wildlife staff.
- * Create groups/clumps of trees that vary in size, shape and density.

1. Type of Treatment – fuels reduction

Milestone dates: -Inventory forest stands (completed)

-Write forest management prescription (Feb. 2011)

-Write bid specs. and award contract (March 2011)

-Initiate project (April 2011)

-Complete project (June/July 2011)

Standards or Guidelines: Will meet CSFS guidelines appropriate for treatment.

Project Period: March 1, 2011 to September 1, 2011

Funded Amount: \$100,000 **Minimum cooperator match:** \$ 100,000

Deliverables: 133 acres treated

Project Types: fuels reduction

All work completed under this project must be certified as meeting minimum Colorado State Forest Service standards prior to any reimbursement being made to the cooperator. Attachment B to the project entitled

Initials:

BW

Rev. March 2007

Financial Assistance Program

Cooperative Match Project

To be conducted by: Boulder County, Chad Julian

Project Number: 530943-011

Estimated Project Cost: \$ 200,000

Funding provided by CSFS: \$ 100,000

Minimum Recipient Match: \$ 100,000

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Based on the strength of the application submitted by Boulder County, Chad Julian the Colorado State Forest Service is providing funding in the amount up to but not exceeding **\$100,000** to accomplish the project described in the attached scope of work.

As the cooperator, Boulder County, Chad Julian, will be reimbursed for actual (hard dollars spent) costs incurred in implementing the project up to the amount listed above once the following requirements are met:

- A. Complete work as described in "*Attachment A*" (scope of work).
- B. Provide documentation that project funds have been matched at a minimum ratio of 1:1.

Complete and submit through the local CSFS District Office periodic Grant Report(s)/Reimbursement Request(s) using the form provided in "*Attachment B*", as needed, and a Final Report that provides details on expenditures and accomplishments as a result of this project. Submission to :

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As a representative of the cooperator, I have read and understand the conditions of participating in this cooperative match project.

Cooperator Signature:

Date:

Boulder County
ATTN: Chad Julian
5201 St. Vrain Road
Longmont, CO 80503
Telephone Number: 303-678-6202
Email Address: cjulian@bouldercounty.org
Fax: 303-678-6179

EXHIBIT A
Financial Assistance Program
Cooperative Match Project
SCOPE OF WORK

Project Number: 530943-011

Cooperator: Boulder County, Chad Julian

Work to be completed: This area was identified in the 1996 North Foothills Management Plan for fuels treatment and was also highlighted as needing treatment in a CSFS report by the Boulder district in 1998. Grant funds will be used to pay contractors and seasonal staff to perform thinning operations; the contract will be managed by BCPOS staff; County Youth Corps will be used for rehabilitation work. Treatment:

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1. Type of Treatment – fuels reduction

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Funded Amount: \$100,000 **Minimum cooperator match:** \$ 100,000

Deliverables: 133 acres treated

Project Types: fuels reduction

All work completed under this project must be certified as meeting minimum Colorado State Forest Service standards prior to any reimbursement being made to the cooperator. Attachment B to the project entitled

Initials:

Rev. March 2007

“Attachment B, Grant Report, Reimbursement Request, WSFM Competitive Grants” will be the document used to both request reimbursement and to certify that work has been completed to minimum standards.

2010 Colorado
Wildland Urban Interface
Grant Application

FOR OFFICIAL USE ONLY	
State Submitting Project:	
State Priority Number:	
Dollar Amount Requested:	\$100,000
Matching Share:	\$100,000

1	Applicant Information	
	Applicant:	Boulder County
	Contact Person:	Chad Julian
	Address:	5201 St. Vrain Road
	City/Zip Code:	Longmont, Co. 80503
	Phone (Work/Cell):	303-678-6202
	Email:	cjulian@bouldercounty.org
	Fax:	303-678-6179

2	Community At Risk Information		
	Name of Project:	Heil Valley Ranch 2011 Forest Restoration/Fuels Reduction Project: PA5 and PA 7	
	Community Name:	Lyons & Lefthand Canyon	
	County:	Boulder	Congressional District: 2
	Latitude (decimal degrees):	40 10' 6"N	Longitude (decimal degrees): 105 18' 2"W

3	Grant Contributors (Matching Share)							
	(Applications will be disqualified if insufficient match is identified; federal dollars DO NOT qualify- see criteria & instructions for exception) Please specify each match contributor and the dollar amount of each contribution. DO NOT show grant requested funds in this table. This is for matching share only.							
	Contributors: (Please specify)	BCPOS						TOTAL
	Dollars (Hard Match):	\$100,000						\$100,000
	In-Kind (Soft Match):							\$0
	TOTAL:	\$100,000	\$0	\$0	\$0	\$0	\$0	\$100,000

4	Total Project Expense (break down matching share totals from block #3)				
	Budget Detail (Provide additional information in Block 7)	Grant Share (\$ Amount Requested)	Match (from block #3)		TOTAL
			Dollars	In-Kind	
	Personnel / Labor:				\$0
	Fringe Benefits:				\$0
	Travel:				\$0
	Equipment:				\$0
	Supplies:				\$0
	Contractual:	\$100,000	\$100,000		\$200,000
	Construction:				\$0
	Other:				\$0
	Indirect Costs:				\$0
	TOTAL:	\$100,000	\$100,000	\$0	\$200,000

Project Summary (check all that apply and answer related questions)	
What is the duration of this project? (check one)	<input checked="" type="checkbox"/> One Year <input type="checkbox"/> Two Years
Is this a new project? (check one)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Is this request maintenance of a previously funded fuels project?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5	Project Category: Hazard Fuels Reduction
Number of acres to be treated:	133 Estimated cost per acre: \$1,500.00
Number of communities directly affected by this project:	4 incorporated plus 62 subdivisions
Project Category: Information & Education	
Number of citizens to be reached:	60,000 (including Heil Valley users)
Project Category: Planning	
Number of residences affected:	18,242

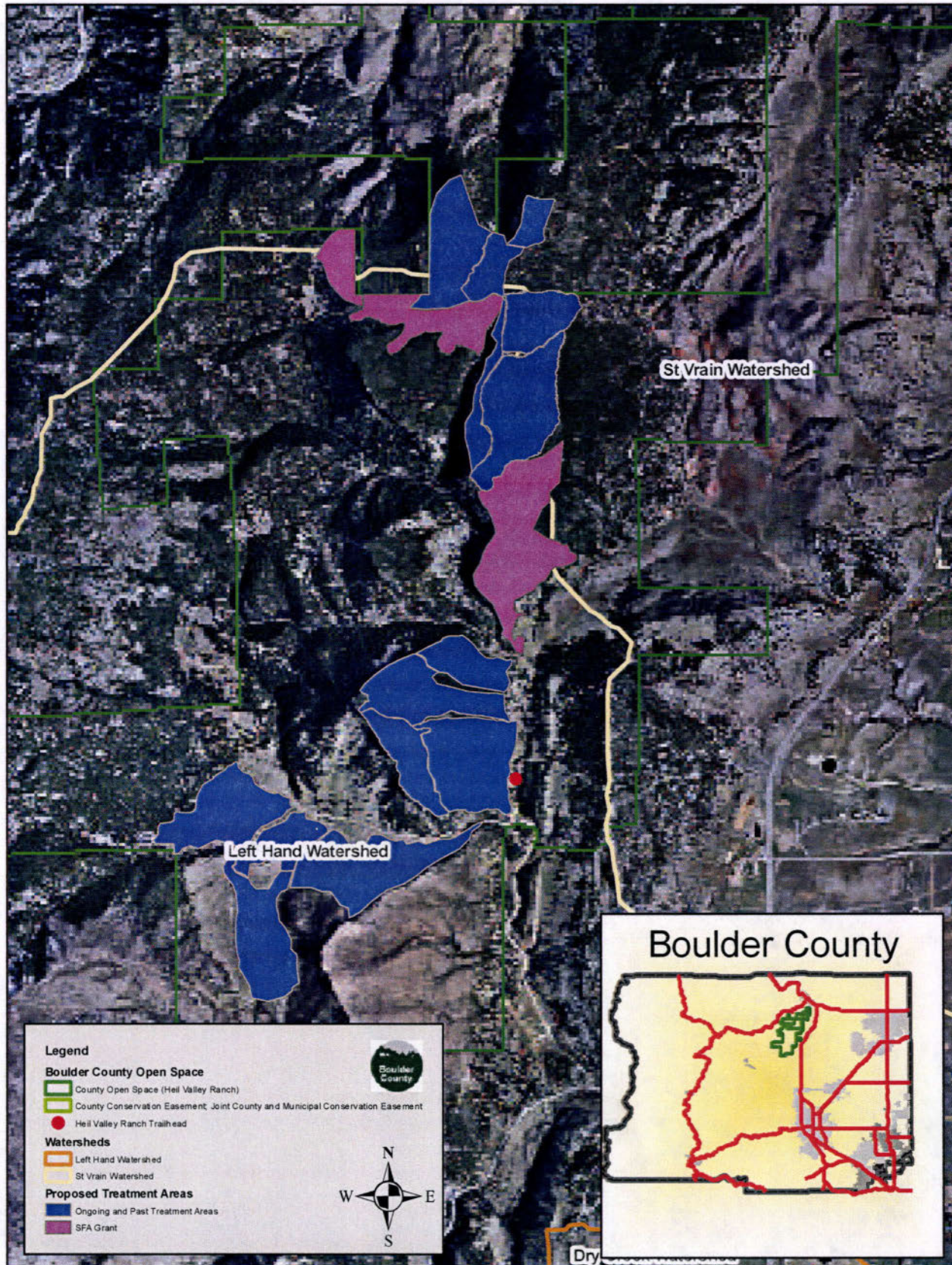
Project Area Description	
All information for the project must fit into the allotted character space provided below. Attachments will not be considered by the review committee.	
6	<p>Provide a brief overview of the project and the project area. (If applying for a fuels reduction project, identify vegetation types.)</p> <p>This proposed project will be completed on Heil Valley Ranch, a 6,800-acre open space property owned by Boulder County, that is located north of Lefthand Canyon at T2N, Range 70 West, at an elevation of 6000 to 6500 ft., adjacent to (3) private subdivisions to the east, including approximately 112 homes. The project area is all lower-montane ponderosa pine forest that is highlighted in the Front Range Fuels Treatment Partnership (FRFTP) recommendations (5/2006). The property is a flagship property for Boulder County's open space program, and includes recreational trails for biking and hiking and provides important ecological habitat closure areas. BCPOS was awarded grant funding in 2007 to help thin 160 acres on Heil, and these two units have been completed. In 2010 BCPOS was awarded HB1199 funding to thin an additional 150 acres on Heil, which will be completed in the spring of 2011. For this funding, BCPOS would like to continue to focus our forestry operations on Heil. This proposed project includes thinning over 266 acres within Project Areas 5 and 7 using funds from HB1199, funds from a State Fire Assistance grant (SFA) and matching funds from Boulder County.</p>

Scope of Work	
All information for the project must fit into the allotted character space provided below. Attachments will not be considered by the review committee.	
7	<p>Provide a brief scope of work which clearly describes how grant funds will be spent. (This should be more specific than the project description. Include any additional information regarding budget details in this section.)</p> <p>This area was identified in the 1996 North Foothills Management Plan for fuels treatment and was also highlighted as needing treatment in a CSFS report by the Boulder district in 1998. Grant funds will be used to pay contractors and seasonal staff to perform thinning operations to reduce wildland fire behavior and intensity; the contract will be managed by BCPOS staff; County Youth Corps will be used for rehabilitation work. The dominant forest type is ponderosa pine which is overstocked and the canopy is highly dense with unmarketable whip and pole stock. The majority of trees are green and living with overall poor to good tree vigor.</p> <p>Treatment:</p> <ul style="list-style-type: none"> * Reducing basal area/acre of ponderosa pine < 18" dbh to 30-50 sq. ft/acre. * Retain all trees > 18" dbh or that exhibit characteristics of pre-settlement trees. * Retain Rocky Mountain juniper and Douglas-fir where it is not a ladder fuel for ponderosa pine. * Maintain a canopy cover < 30%. * Prevent ponderosa pine encroachment in designated meadows. * Maintain or create 50-80 linear ft. of large downed logs > 10" dbh. * Create or maintain openings of 1/4 to 2 acres in size and irregular in shape. * Continue to maintain wildlife cover as prescribed by wildlife staff. * Create groups/clumps of trees that vary in size, shape and density.

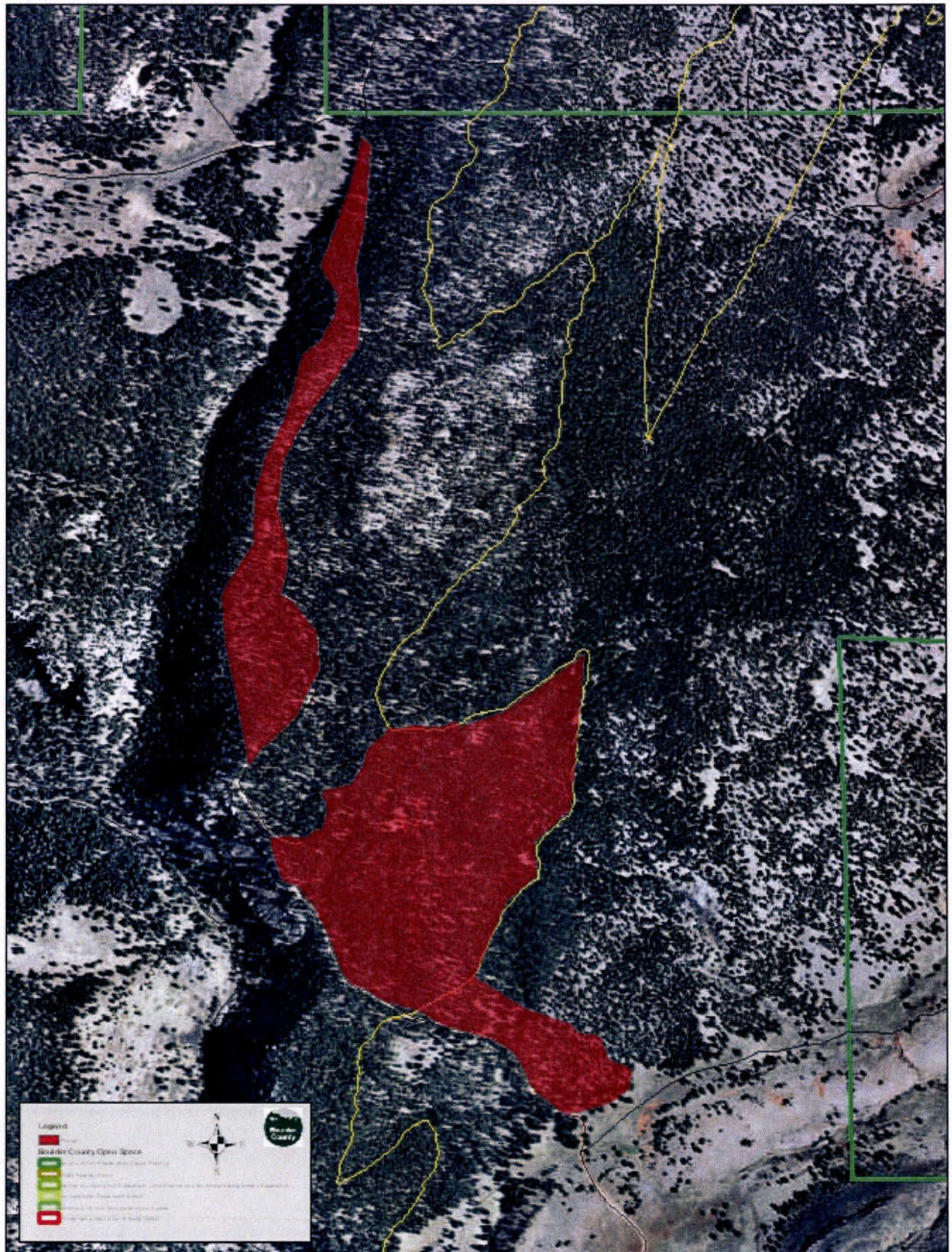
	Interagency Collaboration
8	<p>Specify the private, local, tribal, county, state, federal and/or non-governmental (501c3) organizations that will contribute to or participate in the completion of this project. Describe briefly the contributions each partner will make (i.e. – donating time/equipment, funding, etc.).</p>
	<p>BCPOS works with the Boulder County Ecosystem Cooperative, and the Boulder County Wildfire Mitigation Group on its thinning projects; these groups include representatives from USFS, CSFS, City of Boulder, Boulder County Land Use Department, and other agencies. The area is highlighted in the current update to the Lefthand CWPP and will also be in the Lyons CWPP that is currently underway. This work will occur on and adjacent to a State Land Board parcel, and we will be partnering with the State Land Board on this project. BCPOS may use the Boulder County Youth Corps and volunteers for vegetation restoration on this site. The CSFS will be a partner, if this grant is awarded, and County Land Use (Boulder County Wildfire Mitigation Group) will use this site as a demonstration area to showcase our work. BCPOS also works with the Boulder County Sheriff Emergency Services Division for our prescribed burns. BCPOS also participated with the Colorado Forest Restoration Institute in field assessments on this project. In general, fighting wildland fires in Boulder County is a joint effort between the USFS, CSFS, Boulder County Emergency Services, local fire districts, municipalities, and Boulder County Parks and Open Space. The 2003 Overland fire, which burned over 3600 acres, was fought by all the above entities, and burned USFS, Boulder County and private property.</p>
	Community Wildfire Protection Plan (CWPP)
	<p>Does this community have a wildfire protection plan that follows the Healthy Forest Restoration Act CWPP guidelines? (check one) <input checked="" type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> in development</p>
	<p>Is this project part of the plan? (check one) <input checked="" type="checkbox"/> yes <input type="checkbox"/> no</p>
	<p>Where would we obtain a copy of this plan? Left Hand Fire Protection District; (Lyons, County in development)</p>

	Project Timeline
9	<ul style="list-style-type: none"> -Inventory forest stands (completed) -Write forest management prescription (Feb. 2011) -Write bid specs. and award contract (March 2011) -Initiate project (April 2011) -Complete project (June/July 2011)
	Maintenance / Sustainability
	<p>Clearly demonstrate how this project will remain effective over time by clearly outlining environmental factors, commitments, monitoring measurables, future funding, and education.</p>
	<p>This project is part of a phased project, and will be maintained by Boulder County Parks and Open Space. Monitoring and maintenance activities are shown below: Monitoring, first year and fifth year: all resources (plants, wildlife) are monitored by BCPOS staff and will be funded by BCPOS. BCPOS has 10 years of monitoring history/results for comparison; Maintenance: prescribed burns in 1-3 years with a maintenance burning interval of 5-10 years thereafter; annual weed spraying.</p>
	<p>Boulder County is committed to maintaining this area and improving this property's sustainability. This property was identified as a high priority in the CSFS Statewide Resource Assessment, the FRFTP Recommendations and the St. Vrain Watershed Assessment. This property area alone incurred (4) separate fires over the summer of 2005, with the most recent fire in 9/2005. The largest fire was the Overland fire of 2003, which burned over 3,600 acres. The Old Stage 2 fire (2008) and the Fourmile fire (2010) are both very close to this site as well. Heil is located near the James Creek Watershed target area of the USFS Roosevelt National Forest and creates a buffer between US Forest Service and private property in Lyons and unincorporated Boulder County along US Highway 36.</p>

● SFA Grant Proposed Treatment Area

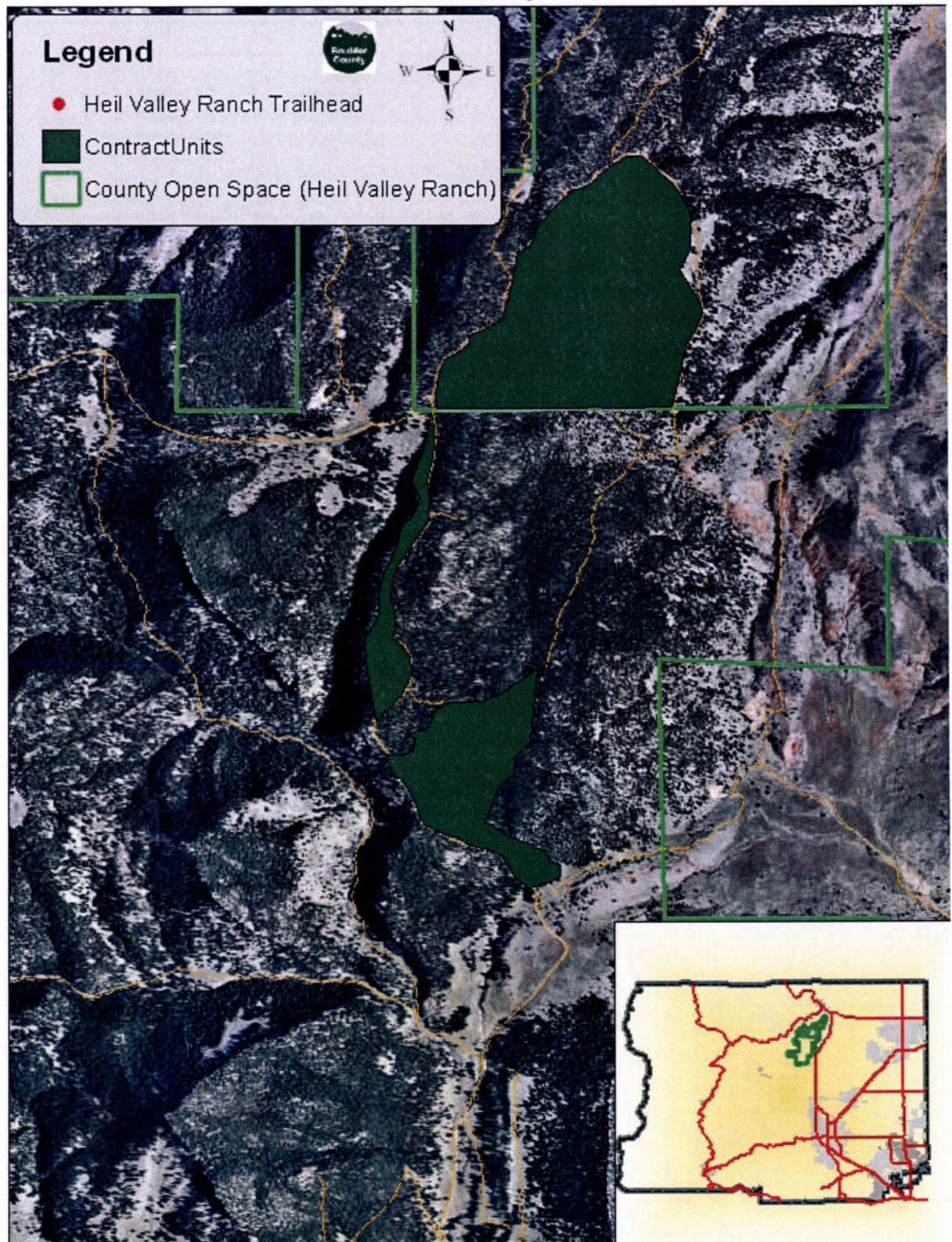


Heil Valley Ranch

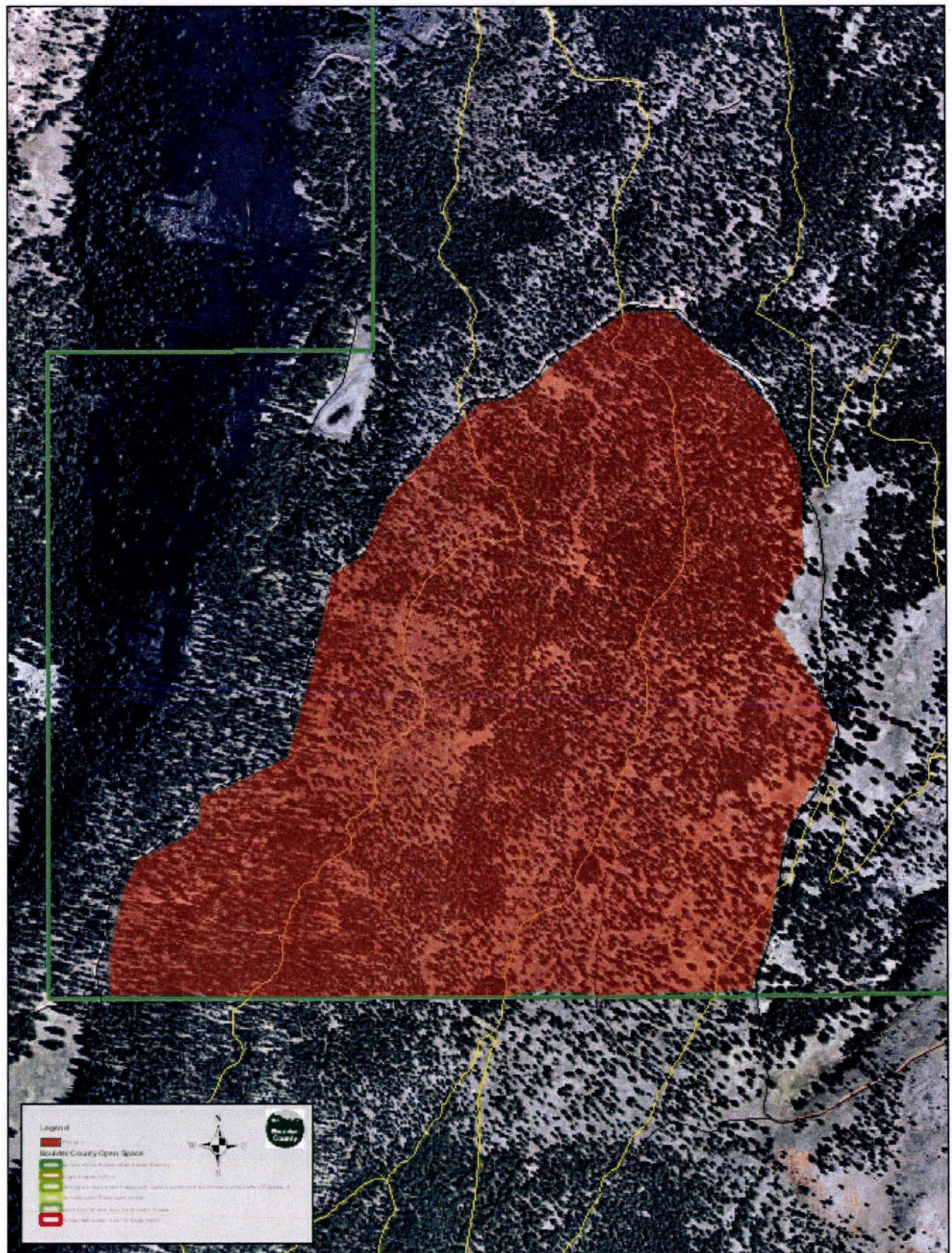


DISCLAIMER: This map is for illustrative purposes only, and is not suitable for

Parks and Open Space Treatments at Heil Valley Ranch



Heil Valley Ranch



DISCLAIMER: This map is for illustrative purposes only, and is not suitable for

COPY



Colorado State Forest Service Program Payment Request

GRANT PROGRAM (CHECK APPROPRIATE PROGRAM TYPE):	
Bureau of Land Management Task Order Program	
Volunteer or Rural Fire Assistance (a.k.a.: VFA/RFA)	
SB 071 Colorado Forest Restoration Grant	
Insect and Disease Prevention and Suppression Program	
State Fire Assistance (a.k.a.: SFA)	X
Front Range Fuels Treatment Partnership (a.k.a.: FRFTP)	
Stevens Fuels Treatment Funds	
Cooperative Fire Agreement (Active Fire Suppression Cooperators; CRS#R-24-103-206-01)	

☒ Checked for Federal suspension and debarment (State Office) <http://www.epls.gov/> 09-15-11
KC

Name: Boulder County Parks & Open Space

Address: 5201 St. Vrain Rd
Longmont CO 80503

Approved for Payment

C.S.F.S.
1503633
09-15-11
KC

The above named has submitted a project application that has been reviewed and approved by the Colorado State Forest Service for funding from State or Federal Assistance.

Grant Number: 5309430011 - B0

Cooperator Match: 130,077.00

Approved Funding: \$100,000.00

Total Project: 230,077.00

CSFS Account Number: 5309430 - 6693

Amount of Payment: \$100,000.00

'07CPG SFA-NFP CG3

Circle one: 1st Payment 2nd Payment 3rd Payment Final Payment

Approved by Spencer D. [Signature]
(Program manager signature)

Date: 9/18/2011

Boulder County SFA 2011 Heil Project
GRANT REPORT/REIMBURSEMENT REQUEST
COMPETITIVE GRANTS

COPY

Project Number: 530943-011

In order to receive reimbursement, you **must** provide documentation supporting your expenditures covered by this initial disbursement and the corresponding match. You may request reimbursement on a monthly basis as you incur expenses, however the final 10% of the award amount will not be released until the final closeout report is received and accepted. Reimbursement requests must be accompanied by receipts for costs incurred and documentation of matching funds. Federal Funds **cannot** be used as sources for meeting the cost sharing (matching) provisions. **Matching Funds are expenses for goods, services and labor necessary for project implementation and incurred by the applicant which are not reimbursed with Federal Funds.**

1. Project #:	2. Project Funding Amount: \$100,000 ✓	3. Community Protected: Lyons & Lefthand Canyon																																																				
4. Make Payment To: Name: Boulder County Parks & Open Space Address: 5201 St. Vrain Road Longmont, Co 80503		5. Period of Performance: 3/1/2011-9/1/2011 From: To:																																																				
6. What was accomplished? (Quantity or Status of Project. Please provide a description of accomplishments. Please be specific and report numbers such as acres treated, numbers of defensible spaces, tons of cubic feet or yards of slash collected, number of presentations, number of plans written. Attach additional sheets as necessary.) Please refer to the attached Final report.																																																						
7. Reimbursement Request: Project to Date Reimbursement Request Amount cannot exceed the total Project obligation as identified in the Project Document. The Total Reimbursement Request Amount cannot exceed the Total Matching Funds amount for the period being billed.																																																						
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Donated time and materials can only be counted towards the matching component. * Use actual costs or \$20.25/hour for donated or volunteers' time ** Use actual costs or fair market value of donated materials, supplies, or equipment use																																																						
8. Amount Paid to CSFS for Products and/Or Services : \$0																																																						
9. I request reimbursement in the amount of \$ 100,000 for the work completed and documented above. I certify that to the best of my knowledge and belief this report is correct and complete and that all outlays reported are for the purposes set forth in the project documents.																																																						
Signature: <u>B. G. Mc Carthy</u> Date: 8/26/2011																																																						
All expenses are true and accurate and all cost share is true and accurate.																																																						
10. Certification (To be completed by CSFS District): Work meets minimum standards as set forth by CSFS. <u>Alta</u> 9/1/11 Signature: Date:																																																						

Final Report-SFA 2011 Grant at Heil Valley Ranch

Project # 530943-011

In 2011 Boulder County Parks and Open Space (BCPOS) was awarded a \$100,000 State Fire Assistance (SFA) grant to support a large-scale phased thinning project at Heil Valley Ranch (Heil), in northwestern Boulder County near the Town of Lyons. With our grant award we were able to continue work in the same project area where HB1199 2009 grant funds were utilized. While HB1199 funded 104 acres of the total project area, SFA grant funding was used towards 150 acres of the project area.

Heil is a 6,800-acre open space property owned by Boulder County, that is located north of Lefthand Canyon at T2N, Range 70 West, at an elevation of 6000 to 6500 ft., and adjacent to (3) private subdivisions to the east of Heil, including approximately 112 homes in the Lefthand Watershed (please refer to the attached project area map). BCPOS was previously awarded grant funding in 2007 for thinning a prior phase on Heil that included 160 acres.

Scope of Work Completed: This project was larger in scale and due to SFA funding, we were able to complete an additional 150 acres of forest restoration, some road improvements necessary for us to remove more volume as well as site rehab from two years of work. Grant funding was used to pay a contractor to complete the work to Boulder County Parks and Open Space's specifications. Trees were severed from the stump using a "hot saw" and placed in wind rows within the unit. A second tracked machine with a Cut-to-Length processing head then de-limbed the material and placed it into pre-bunches in the forest. A third machine then loaded the material for transport to 4 landings located along the main access road. The tree boles were hauled off-site to a storage facility by long-chassis trucks. These longer trucks allowed for fewer trips, i.e. less impacts but did require us to make some road improvements specifically widening the radius of three switch-backs. Site rehabilitation was limited to seeding the cut banks on the new road portions and ripping and seeding all four landings from this year's project and the one landing from last year's project. Little rehab work was necessary in the treatment areas due to the capabilities of the machines and the skill of their operators.

Accomplishments: This project was designed based on the project prescription developed by BCPOS forestry staff. A summary of our prescription (the full prescription is included as an Attachment to this report) is shown below:

- * Reducing basal area/acre of ponderosa pine < 18" dbh to 30-50 sq. ft/acre.
- * Retain all trees > 18" dbh or that exhibit characteristics of pre-settlement trees.
- * Retain Rocky Mountain juniper and Douglas-fir where it is not a ladder fuel for ponderosa pine.
- * Maintain a canopy cover < 30%.
- * Prevent ponderosa pine encroachment in designated meadows.
- * Maintain or create 50-80 linear ft. of large downed logs > 10" dbh.
- * Create or maintain openings of 1/4 to 2 acres in size and irregular in shape.
- * Continue to maintain wildlife cover as prescribed by wildlife staff.
- * Create groups/clumps of trees that vary in size, shape and density.

Based on this prescription, the objectives identified for this project were to:

- 1) Emulate pre-settlement forest structure by creating a clumpy, uneven-aged forest, interspersed with openings that more closely resemble conditions that existed prior to the interruption of historic fire regime;
- 2) Maintain existing large openings and create additional openings;
- 3) Reduce the overall basal area to 30-50 ft²/acre;
- 4) Reduce the overall canopy cover to 15-30%.

This area was identified in the 1996 North Foothills Management Plan for fuels treatment and was also highlighted as needing treatment in a CSFS report by the Boulder district in 1998. In developing the restoration proposal for Heil, emphasis was placed on forest restoration goals of BCPOS and the fire mitigation needs of the Lefthand Fire Protection District. The scientific foundation for this project was based on forest restoration and fuel reduction technologies. This project area is located within the area recommended for Forest Restoration as highlighted in the Front Range Fuels Treatment Partnership Recommendations and this unit was highlighted in the Lefthand FPD CWPP.

BCPOS was able to meet all of the stated objectives for this treatment. The resulting forest structure is comprised of small openings interspersed with small (2-40 trees) clumps of ponderosa pine. Our pre-treatment inventory showed an overabundance of trees in the 8 to 12 inch diameter class with few larger trees and even fewer smaller diameter trees. For that reason this treatment targeted that 8-12 inch diameter class for removal. Basal area measurements during operations showed a reduction of 30% to an overall average of 50 ft²/acre. This resulted in a removal of approximately 2100 tons of material from the site. This reduction in standing volume also resulted in a calculated canopy cover of 30%.

With the completion of this project Boulder County Parks and Open Space now has 254 acres of continuous treated land in the middle of one of our most popular parks. There are currently plans to treat an additional 200 acres adjacent to this project and expand upon our efforts to mitigate the effects of mountain pine beetle and catastrophic wildfire.

Summary-Actual Costs: With SFA funding, BCPOS hired Morgan Timber to provide contracted work to thin 150 acres in Unit 5. Grant funding was used to pay the contractor to complete the work to our specifications. Total costs for the overall Heil project and the SFA portion of the project were:

Total Project Costs-254 Acres

Type	HB1199 2009 Grant	SFA Grant	BCPOS Match
Contract Costs	\$100,000	\$100,000	\$244,997
Personnel-BCPOS			3,012
Boulder County Youth Corp			<u>26,132</u>
Total:	\$100,000	\$100,000	\$274,141

Total Overall Heil-Project Costs: \$474,141

SFA Portion-150 acres:

Type	SFA	BCPOS	Total:
Contract Costs	\$100,000	\$130,077	\$230,077

Summary-Matching Funds: BCPOS contributed \$130,077 in cash match to this project.

Before & After Photos: Before and after photos are attached to this Final Report.

Attachments

1. Before & After Photos
2. Project Maps
3. Prescription

Boulder County SFA 2011 Heil Project
GRANT REPORT/REIMBURSEMENT REQUEST
COMPETITIVE GRANTS

Project Number: 530943-011

In order to receive reimbursement, you **must** provide documentation supporting your expenditures covered by this initial disbursement and the corresponding match. You may request reimbursement on a monthly basis as you incur expenses, however the final 10% of the award amount will not be released until the final closeout report is received and accepted. Reimbursement requests must be accompanied by receipts for costs incurred and documentation of matching funds. Federal Funds **cannot** be used as sources for meeting the cost sharing (matching) provisions. **Matching Funds are expenses for goods, services and labor necessary for project implementation and incurred by the applicant which are not reimbursed with Federal Funds.**

1. Project #:	2. Project Funding Amount: \$100,000	3. Community Protected: Lyons & Lefthand Canyon
4. Make Payment To: Name: Boulder County Parks & Open Space Address: 5201 St. Vrain Road Longmont, Co 80503		5. Period of Performance: 3/1/2011-9/1/2011 From: To:

6. What was accomplished? (Quantity or Status of Project. Please provide a description of accomplishments. Please be specific and report numbers such as acres treated, numbers of defensible spaces, tons of cubic feet or yards of slash collected, number of presentations, number of plans written. Attach additional sheets as necessary.)

Please refer to the attached Final report.

7. Reimbursement Request:

Project to Date Reimbursement Request Amount cannot exceed the total Project obligation as identified in the Project Document. The Total Reimbursement Request Amount cannot exceed the Total Matching Funds amount for the period being billed.

	Current Period				Project to Date			
	Reimbursement Amount Requested For Out of Pocket Expenses	Matching Funds		Total Costs	Reimbursement Amount Requested For Out of Pocket Expenses	Matching Funds		Total Costs
		Cash (hard match)	Donated (Inkind match)			Cash (hard match)	Donated (Inkind)	
Labor*	\$100,000.00	\$130,077.00		\$230,077.00	\$100,000.00	\$130,077.00	\$0.00	\$230,077.00
Material**	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Total	\$100,000.00	\$130,077.00	\$0.00	\$230,077.00	\$100,000.00	\$130,077.00	\$0.00	\$230,077.00

Donated time and materials can only be counted towards the matching component.

* Use actual costs or \$20.25/hour for donated or volunteers' time

** Use actual costs or fair market value of donated materials, supplies, or equipment use

8. Amount Paid to CSFS for Products and/Or Services : \$0

9. I request reimbursement in the amount of \$ 100,000 for the work completed and documented above. I certify that to the best of my knowledge and belief this report is correct and complete and that all outlays reported are for the purposes set forth in the project documents.

Signature: B. D. G. Mc Carthy

Date: 8/26/2011

All expenses are true and accurate and all cost share is true and accurate.

10. Certification (To be completed by CSFS District):

Work meets minimum standards as set forth by CSFS.

Signature:

Date:

Allen Durr 9/1/11

Final Report-SFA 2011 Grant at Heil Valley Ranch

Project # 530943-011

In 2011 Boulder County Parks and Open Space (BCPOS) was awarded a \$100,000 State Fire Assistance (SFA) grant to support a large-scale phased thinning project at Heil Valley Ranch (Heil), in northwestern Boulder County near the Town of Lyons. With our grant award we were able to continue work in the same project area where HB1199 2009 grant funds were utilized. While HB1199 funded 104 acres of the total project area, SFA grant funding was used towards 150 acres of the project area.

Heil is a 6,800-acre open space property owned by Boulder County, that is located north of Lefthand Canyon at T2N, Range 70 West, at an elevation of 6000 to 6500 ft., and adjacent to (3) private subdivisions to the east of Heil, including approximately 112 homes in the Lefthand Watershed (please refer to the attached project area map). BCPOS was previously awarded grant funding in 2007 for thinning a prior phase on Heil that included 160 acres.

Scope of Work Completed: This project was larger in scale and due to SFA funding, we were able to complete an additional 150 acres of forest restoration, some road improvements necessary for us to remove more volume as well as site rehab from two years of work. Grant funding was used to pay a contractor to complete the work to Boulder County Parks and Open Space's specifications. Trees were severed from the stump using a "hot saw" and placed in wind rows within the unit. A second tracked machine with a Cut-to-Length processing head then de-limbed the material and placed it into pre-bunches in the forest. A third machine then loaded the material for transport to 4 landings located along the main access road. The tree boles were hauled off-site to a storage facility by long-chassis trucks. These longer trucks allowed for fewer trips, i.e. less impacts but did require us to make some road improvements specifically widening the radius of three switch-backs. Site rehabilitation was limited to seeding the cut banks on the new road portions and ripping and seeding all four landings from this year's project and the one landing from last year's project. Little rehab work was necessary in the treatment areas due to the capabilities of the machines and the skill of their operators.

Accomplishments: This project was designed based on the project prescription developed by BCPOS forestry staff. A summary of our prescription (the full prescription is included as an Attachment to this report) is shown below:

- * Reducing basal area/acre of ponderosa pine < 18" dbh to 30-50 sq. ft/acre.
- * Retain all trees > 18" dbh or that exhibit characteristics of pre-settlement trees.
- * Retain Rocky Mountain juniper and Douglas-fir where it is not a ladder fuel for ponderosa pine.
- * Maintain a canopy cover < 30%.
- * Prevent ponderosa pine encroachment in designated meadows.
- * Maintain or create 50-80 linear ft. of large downed logs > 10" dbh.
- * Create or maintain openings of 1/4 to 2 acres in size and irregular in shape.
- * Continue to maintain wildlife cover as prescribed by wildlife staff.
- * Create groups/clumps of trees that vary in size, shape and density.

Based on this prescription, the objectives identified for this project were to:

- 1) Emulate pre-settlement forest structure by creating a clumpy, uneven-aged forest, interspersed with openings that more closely resemble conditions that existed prior to the interruption of historic fire regime;
- 2) Maintain existing large openings and create additional openings;
- 3) Reduce the overall basal area to 30-50 ft²/acre;
- 4) Reduce the overall canopy cover to 15-30%.

This area was identified in the 1996 North Foothills Management Plan for fuels treatment and was also highlighted as needing treatment in a CSFS report by the Boulder district in 1998. In developing the restoration proposal for Heil, emphasis was placed on forest restoration goals of BCPOS and the fire mitigation needs of the Lefthand Fire Protection District. The scientific foundation for this project was based on forest restoration and fuel reduction technologies. This project area is located within the area recommended for Forest Restoration as highlighted in the Front Range Fuels Treatment Partnership Recommendations and this unit was highlighted in the Lefthand FPD CWPP.

BCPOS was able to meet all of the stated objectives for this treatment. The resulting forest structure is comprised of small openings interspersed with small (2-40 trees) clumps of ponderosa pine. Our pre-treatment inventory showed an overabundance of trees in the 8 to 12 inch diameter class with few larger trees and even fewer smaller diameter trees. For that reason this treatment targeted that 8-12 inch diameter class for removal. Basal area measurements during operations showed a reduction of 30% to an overall average of 50 ft²/acre. This resulted in a removal of approximately 2100 tons of material from the site. This reduction in standing volume also resulted in a calculated canopy cover of 30%.

With the completion of this project Boulder County Parks and Open Space now has 254 acres of continuous treated land in the middle of one of our most popular parks. There are currently plans to treat an additional 200 acres adjacent to this project and expand upon our efforts to mitigate the effects of mountain pine beetle and catastrophic wildfire.

Summary-Actual Costs: With SFA funding, BCPOS hired Morgan Timber to provide contracted work to thin 150 acres in Unit 5. Grant funding was used to pay the contractor to complete the work to our specifications. Total costs for the overall Heil project and the SFA portion of the project were:

Total Project Costs-254 Acres

Type	HB1199 2009 Grant	SFA Grant	BCPOS Match
Contract Costs	\$100,000	\$100,000	\$244,997
Personnel-BCPOS			3,012
Boulder County Youth Corp			<u>26,132</u>
Total:	\$100,000	\$100,000	\$274,141

Total Overall Heil-Project Costs: \$474,141

SFA Portion-150 acres:

Type	SFA	BCPOS	Total:
Contract Costs	\$100,000	\$130,077	\$230,077

Summary-Matching Funds: BCPOS contributed \$130,077 in cash match to this project.

Before & After Photos: Before and after photos are attached to this Final Report.

Attachments

1. Before & After Photos
2. Project Maps
3. Prescription



HVR_PA5U9T2P12_E_09



HVR_PA5U9T2P12_N_09



HVR_PA5U9T2P12_S_09



HVR_PA5U9T2P12_W_09



HVR_PA5U10T2P10_E_09



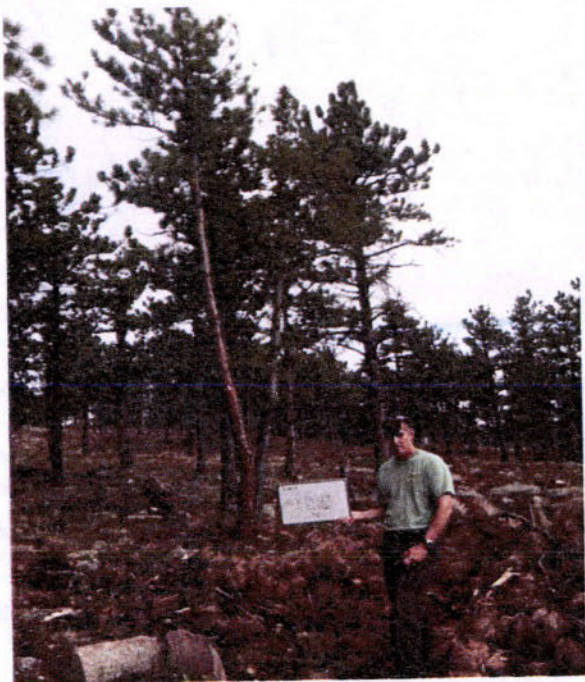
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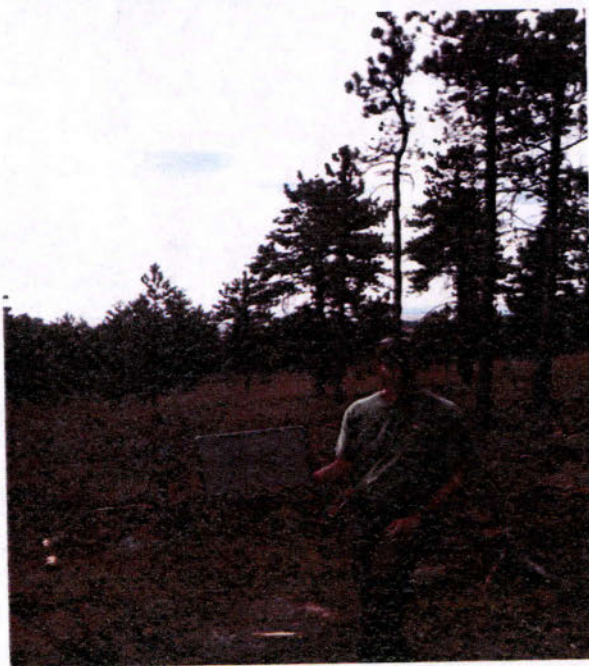
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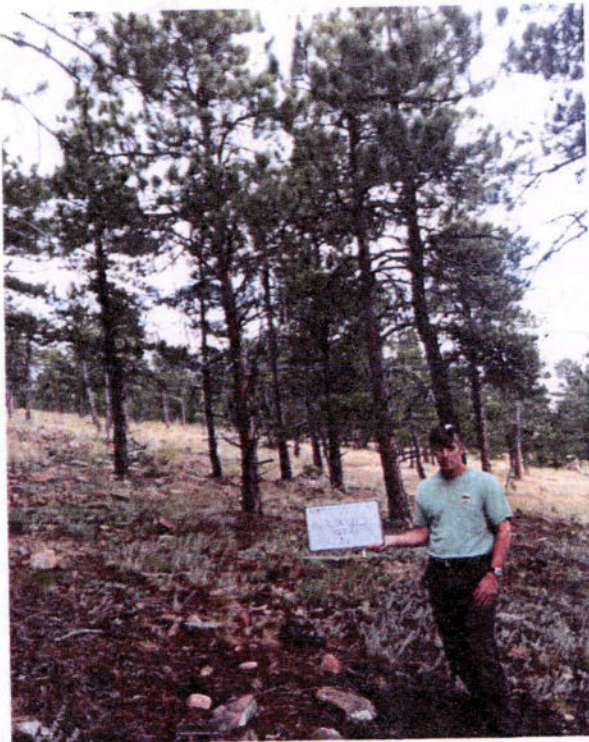
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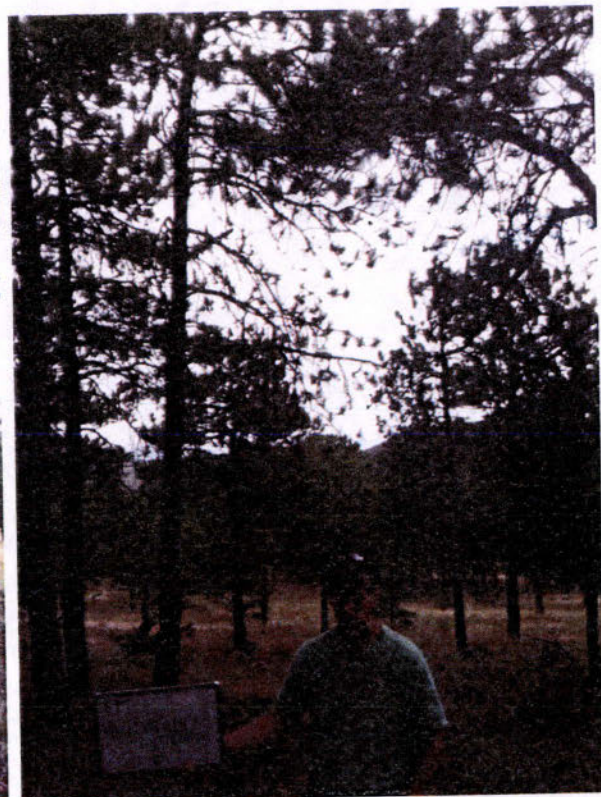
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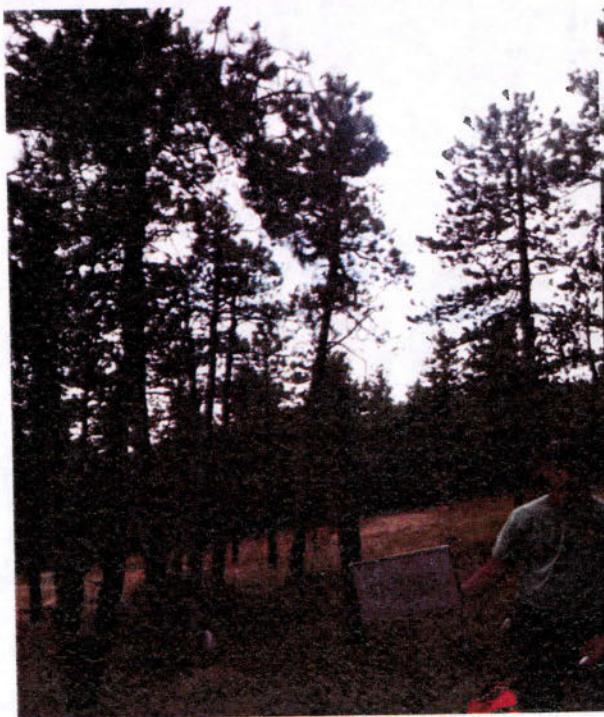
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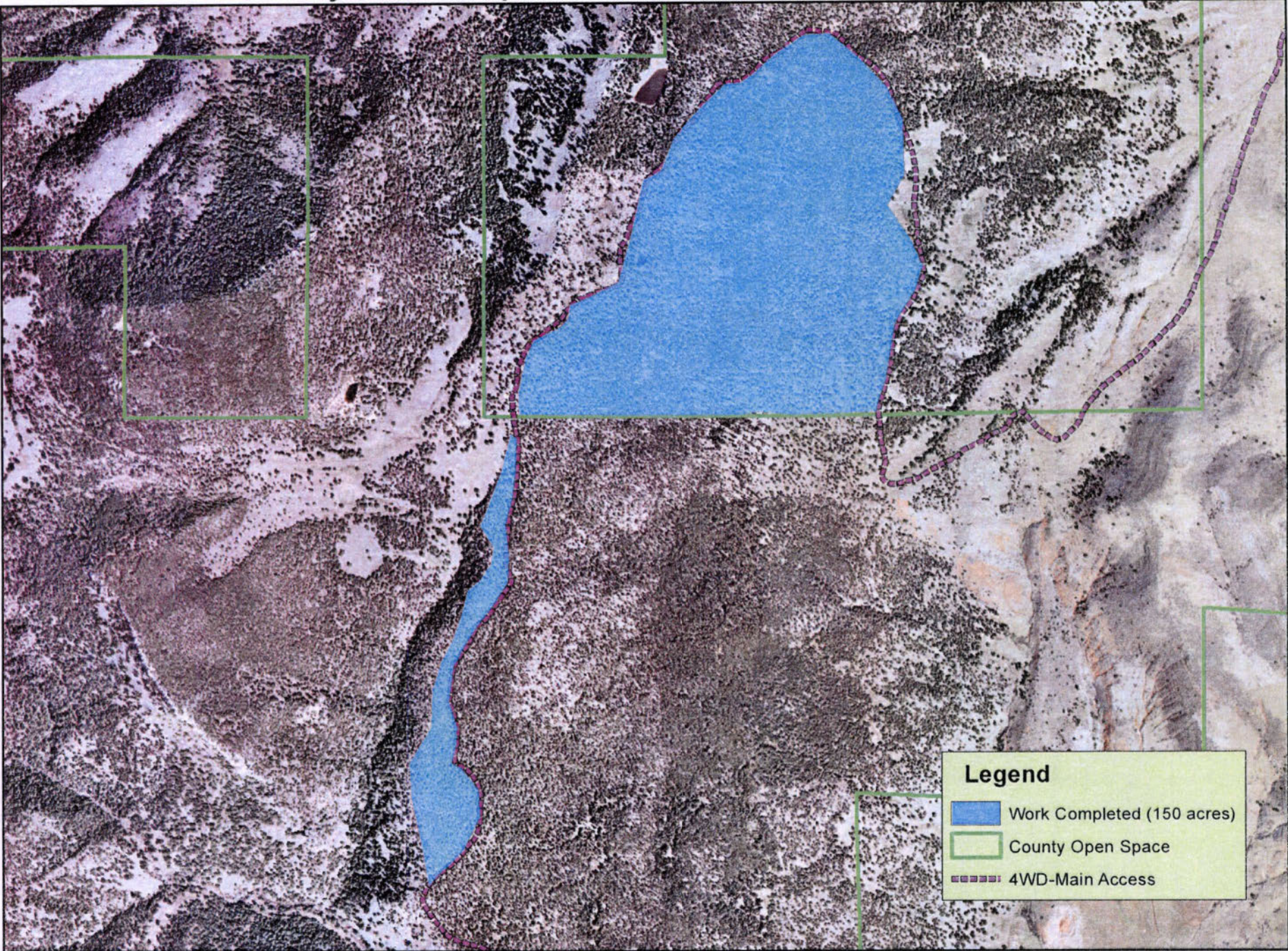


HVRPA5U10T2P10_S_11



HVRPA5U10T2P10_W_11

Forestry Work Completed with SFA Grant at Heil Valley Ranch

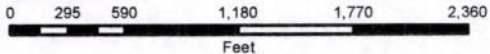


Legend

- Work Completed (150 acres)
- County Open Space
- 4WD-Main Access

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DISCLAIMER
This map is for illustrative purposes only, and is not suitable for parcel specific decision making. The areas depicted here are approximate. More site specific studies may be required to draw accurate conclusions.



Map by: C. Julian 6-24-10



Heil Valley Ranch Open Space Project Area 5 Units 8, 9 and 10 Forest Restoration/Fuels Management Project

1. Project Area Background

North Foothills Open Space (NFOS) was conceptualized during the development of the initial Boulder County Comprehensive Plan in the 1970s. Much of the area was designated as a "Scenic Area" on the Open Space Map. The designations stemmed from the beauty, undeveloped nature, cultural value and natural resources of these lands. Several major acquisitions and land saving actions have occurred (Figure 1). Boulder County Parks & Open Space Department (BCPOS) made their first purchase of land in North Foothills Open Space in 1990 with the acquisition of Trevarton Ranch. For the 1,207 acre parcel, 491 acres were purchased outright while a conservation easement was acquired on the remaining 716 acres.

Beginning in 1993, Boulder County began acquiring portions of two of the most significant properties in the county. The Heil Valley Ranch totals 4,923 acres. The Hall Ranch covers 3,205 acres. Those purchases are now complete. Heil Valley Ranch totals 6,326 acres as of 2010.

The department approved a management plan for the North Foothills Open Space, which includes both Hall and Heil Ranch in 1996. The plan can be found on the Boulder County website within the Parks and Open Space section. Objectives for vegetative resource management and more specifically the forest and grassland management are listed in the Desired Future Conditions Section. The project area aligns with Areas One and Two on Figure 5 in Volume 2 of the NFOSMP, identified as vegetation management priority areas. The Colorado State Forest Service (CSFS) highlighted this area as an area that needs forest management in a report to BCPOS in 1998. Lastly, this property was also identified as a high priority in the CSFS Statewide Resource Assessment, the Front Range Fuels Treatment Partnership (FRFTP) Recommendations and the St. Vrain Watershed Assessment.

Lefthand Fire Protection District has also completed a Community Wildfire Protection Plan, which identifies this site as a high priority for wildfire mitigation to protect subdivision to the east from catastrophic wildfire. Within a two mile radius, there have been at least six fires >1 acre since 2003. The largest was the Overland Fire of 2003, which consumed 3,500 acres.

The CSFS and the former private landowner treated a portion of Heil Project Area Five (PA5) in the 1980's. BCPOS treated a portion of Heil PA5 from 1999-2004. The goal with that treatment was a shaded-fuel break. All species below 6" in diameter were removed. Those prescriptions reference a second entry into those units in the near future. In 2010 BCPOS was awarded HB1199 funding to thin an additional 150 acres on Heil, which will be completed in the spring of 2011.

A detailed inventory of both overstory and understory vegetation was completed in September of 2009. The following document includes a baseline inventory and recommended forest restoration prescription for Heil PA5. In developing this restoration proposal we have placed emphasis on forest restoration goals of BCPOS and the fuels reduction needs of the Boulder County Sheriff's Department and Lefthand Fire Protection District.

2. Historical Stand Condition

Refer to Boulder County Parks and Open Space Forest Management Policy, Appendix A, Lower Montane Life Zone pages 22-32. (Document can be found at <G:\Forestry-Fire\Management-Work Plans\Forest Management Policy>).

3. Current Stand Condition

Forest overstory vegetation data was collected with a basal area factor prism of 10 (BAF10) via nine variable radius plots. Data was then extrapolated for the entire unit using the Forest Vegetation Simulator software (FVS). Refer to figures 1-6 for additional metrics for PA5 Units 8,9,10.

A. Overstory Vegetation

Project area five is 664 acres. The portions of Units 8, 9, 10 that pertain to this document have been designated Unit B for contracting purposes. Unit B is approximately 136 acres in size. The elevation within the units ranges from 6,800 feet to 6,400 feet. Unit B consists mostly of *Pinus ponderosa* with *Sabina scopulorum* and *Psuedotsuga menziesii* making up the rest of the forest overstory structure. Among the nine plots sampled, slopes ranged from 2% to 18%, with a mean of 9.7%. The dominant aspect is south (189°). Total average canopy cover was calculated at 52% closed, with a mean tree height of 34 ft. (n = 64, sd = 4.5 ft., max = 51 ft.). Basal area (BA) was calculated at 70 ft²/acre (n = 9, sd = 37 ft²/acre). The mean calculated diameter at breast height (dbh) in inches was 10.8 (n=64, sd= 2.2, max= 16.4). The mean kind (a scale with 1 being alive and 3 being standing dead) was 1.3, with a mean vigor (1 being healthy/good form and 4 being suppressed) of 1.6. The mean dwarf mistletoe (DM) rating for *Arceuthobium vaginatum* subs. *Cryptopodum* rating was 0.4 for sampled trees. The average age of the sampled trees in Unit B is 97 YBP with a standard deviation of 27 (n=11).

B. Understory Vegetation

Forest understory vegetation data for Unit B was collected via nine plots, located at the center point of each overstory plot. The mean ground cover was as follows: grass 28%; forbs 13%; rock 19%; duff 23%, litter 12%; bare ground 5%. Some of the species identified at the plot locations: *Erigeron sp.*, fleabane; ; *Potentilla recta*, sulphur cinquefoil; *Artemisia frigida*, silver sage; *Artemisia ludoviciana*, sage; *Alsinacea cerastiu*, mouse-ear chickweed; *Anisantha tectorum*, cheatgrass; *Danthonia parryi*, Parry's oatgrass; *Carex sp.*, sedge; *Harbouria trachypleura*, whiskbroom parsley; *Eriogonum umbellatum subsp.*, sulphur-flower; *Penstemon sp.*, Bearded tongue; *Poa compressa*, Canada bluegrass; *Achillea lanulosa*, yarrow; *Heterotheca villosa*, golden aster; *Mertensia sp.*, chiming bells; *Leucopoa kingii*, spike fescue.

Figure 1. Overstory Vegetation Data; Basal Area and Diameter Summary (Inventory Conditions according to FVS)

Stand=HVRPA5UB Year=2009 Inventory conditions				
File: IV_001.svs				
Summary is for all species				
Tree list summary:				
Origin:	(0.0,0.0)			
Size:	208.7 by 208.7 (1.00 acres)			
Units:	ENGLISH			
Total objects:	176	(176 per acre)		
Standing live trees (using FVS plant class codes):				
	Mean	SD	Min	Max
dbh	8.1	2.5	5.8	16.4
ht	30.4	5.2	21.0	48.0
Basal area:	67.8		(67.8 per acre)	
Number of trees:	173		(173 per acre)	
Standing dead trees (using FVS plant class codes):				
	Mean	SD	Min	Max
dbh	11.5	1.4	10.7	13.1
ht	32.3	4.0	30.0	37.0
Basal area:	2.2		(2.2 per acre)	
Number of trees:	3		(3 per acre)	
Downed trees and logs (status code 0, 10, 3, or 13):				
No downed logs to summarize				

Figure 2. Overstory Vegetation Data; Canopy Cover, Kind, DM Rating and Age Summary. (Inventory Conditions)

Metric	2009 Conditions	Standard Deviation
Canopy Cover	52%	34
Kind	1.3	.3
Vigor	1.6	.7
Site Index	35	
Mean Age Cored	97.1 ybp	27.4
Mean R. Growth	7.0 (1/20")	6.2
Slope	9.7%	5.7
Aspect	189 degrees	131.2
DM Rating	0.4	1.2

All Figures represent conditions as inventoried in 2009 in Heil PA5 Units 8,9 and 10. Figures are outputs from FVS.

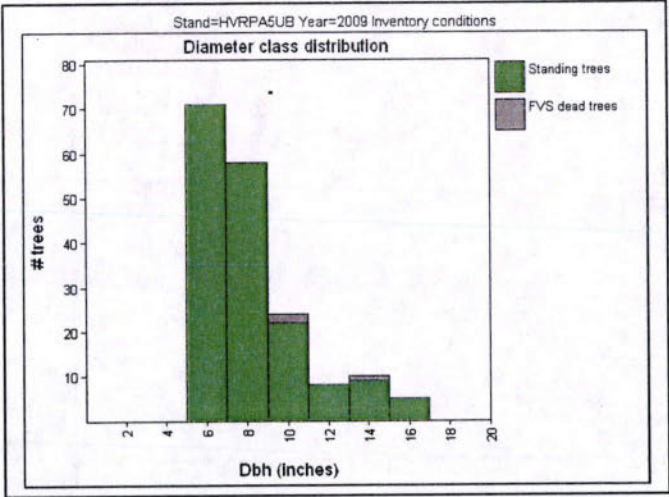


Figure 3. Diameter Class Distribution

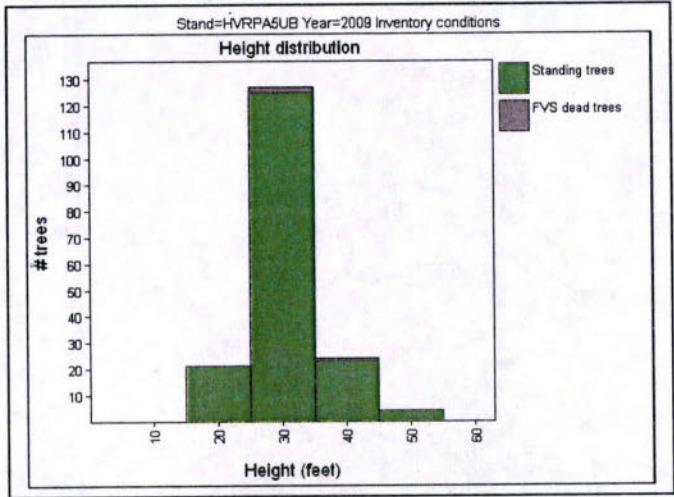


Figure 4. Height Distribution

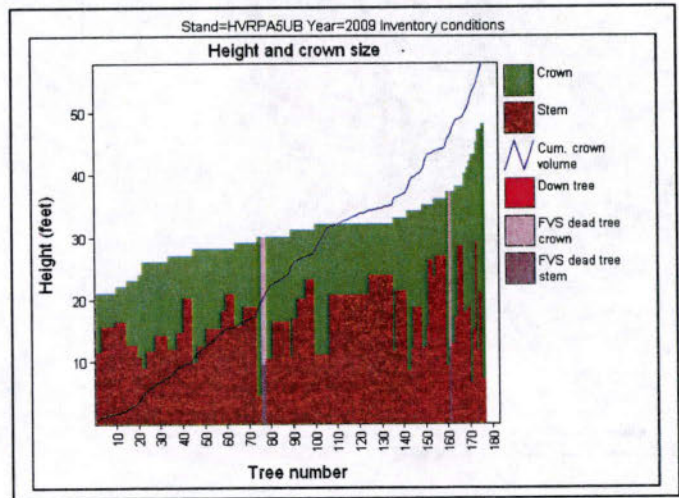
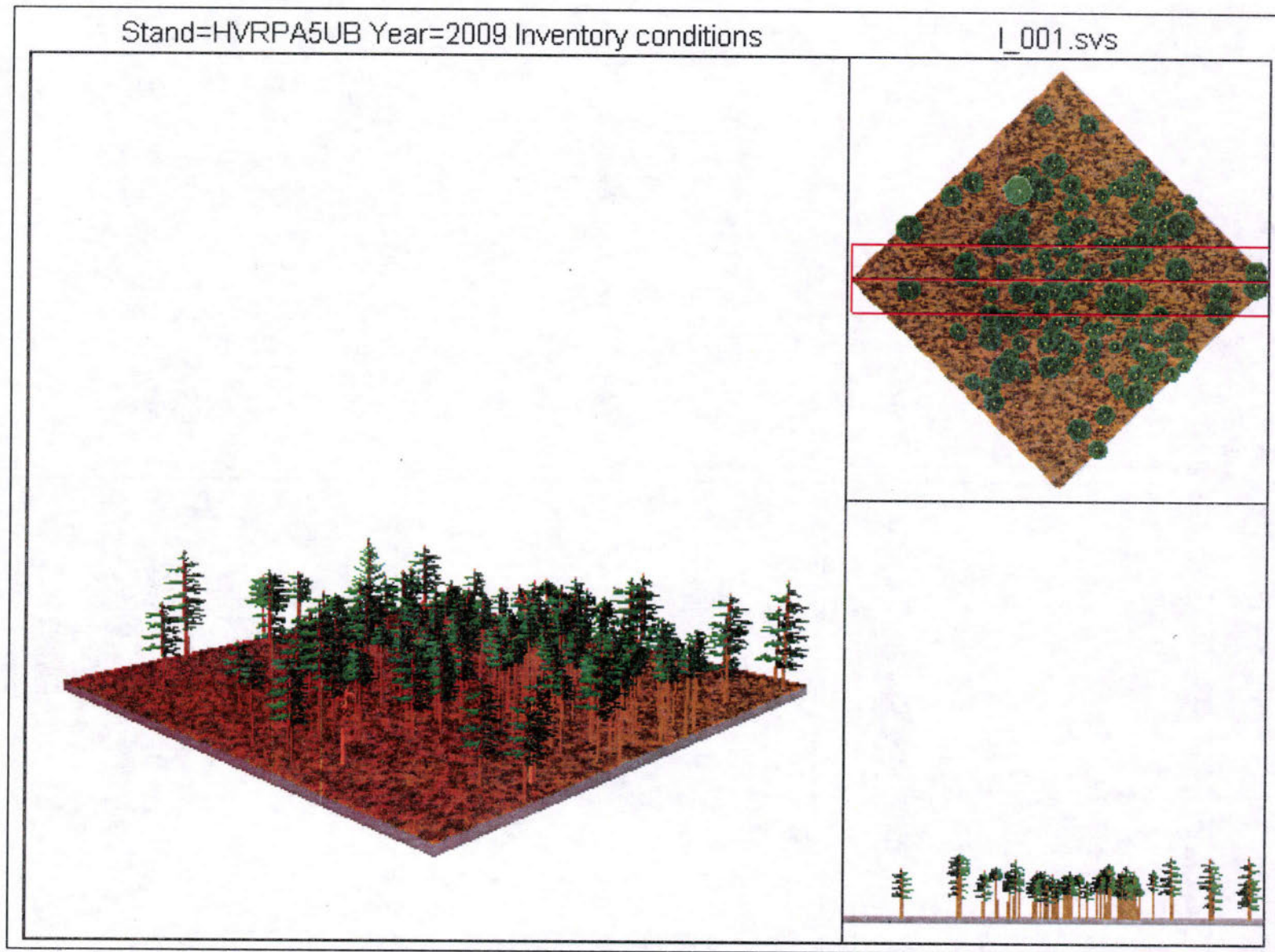


Figure 5. Canopy Base Height and Crown Size

Figure 6. Overhead, Perspective and Side Views



4. Desired Stand Condition

A) Management Plan Recommendations

***All management plan recommendations are from the North Foothills Open Space Management Plan**

The management direction is towards protecting critical resources, encouraging native species over exotic, and maintaining natural processes. Where feasible, a passive approach of letting nature take its course will be utilized. However, active tools such as forest thinning, herbicides, seeding, grazing, rest from grazing, exclusion from grazing, biological weed controls and prescribed fire will also be utilized.

1) General Management Plan Objectives for Vegetative Management (Section 6.0)

- Protect and properly manage Conservation Areas, Significant Plan Communities, and rare plants.
- Manage vegetative communities by maintaining and encouraging desirable native species, restoring degraded areas, and eliminating or controlling undesirable exotic species.
- Manage for ecosystem integrity by encouraging and planning for naturally occurring processes, or the simulation of those processes, so they will remain vital components of the ecosystem.

2) Forest and Grassland Management (Section 6.2)

- Increase native plants, increase diversity, cover and vigor, control soil erosion, and retain more moisture on site.
- Reduce the density of some forest stands to bring these stands back to a more natural density and to decrease the probability of major wildfire, and large-scale insect and disease infestations.
- Restore natural meadow systems by reducing invasion of conifers.
- Retain and perpetuate old-growth forests and woodlands. Retain large-diameter trees (generally those over 20" Diameter at Breast Height (DBH)), snags (standing dead) and coarse woody debris in the understory. Retain a minimum of three snags per acre of 10" DBH for wildlife.
- Maintain a mosaic of stand density, size and age for vegetation types, particularly coniferous forests and woodlands, and foothill shrublands.
- Protect and restore riparian habitat. Reduce grazing to a level that allows for the regeneration and establishment of willows, shrubs and cottonwoods in riparian zones.
- Manage undesirable vegetation, including noxious weeds, using an integrated pest management approach. Unwanted vegetation may be managed using manual removal, prescribed fire, mechanical, biological, or herbicidal methods. All methods of control will be evaluated to reduce potential adverse effects to human health and the environment.

The primary tools for active management include: thinning and pruning of forests and woodlands; use of controlled burns; grazing; and weed management.

3) Wildlife Management (Section 7.0)

- Protect the ecosystem functions of the properties relative to their values within the North St. Vrain and South St. Vrain/Foothills Environmental Conservation Areas, and particularly Coffintop and Central gulches.
- Protect and properly manage conservation areas and critical resources.
- Protect wildlife habitat by maintaining natural food, cover, nesting sites, resting areas and habitat effectiveness.

The management direction focuses on three different scales: 1) the context of the property in the landscape of northwestern Boulder County; 2) the ability of the property to function as effective wildlife habitat; and 3) the protection of known significant resources.

4) Primary Tools

- Thinning and pruning of forests and woodlands: This management tool is utilized in order to decrease stand density in ponderosa pine forests and maintain open meadows, shrublands and woodlands. It also allows fire to be a more effective and less dangerous agent by reducing stand density, maintaining less hazardous fuel types, and eliminating ladder fuels. Thinning will focus on removing understory trees, as well as many seedlings and saplings which would have been killed by historically occurring low-intensity ground fires. Most active forest management will focus on maintaining meadows, shrublands and woodlands (Figure 5, areas 1, 3-5, 7-9). Thinning can be used to reduce fuel loads, bring ponderosa pine stands back to more natural densities, and feather the sharp edges created by thinning operations of the past (Figure 5, areas 2 & 6).
- Use of Prescribed Burns: Fire is an important part of grassland, woodland, shrubland and forest ecosystems of Boulder County. Recent research suggests that fires in the foothills burned at an interval of 10-20 years prior to suppression efforts. Many plants and plant communities are influenced by fire or are dependent upon it for germination and growth. Fire burns in a mosaic that creates a diversity of species and densities within a vegetative community. Fire helps return nutrients to the soil. Fire should be used in conjunction with grazing, mowing, thinning and pruning to maintain periodic disturbances in vegetative communities.

B) POS Forestry-Fire Recommendations:

1) Overall objectives for Heil PA5 Units 8, 9 and 10

- Emulate pre-settlement forest structure by creating a clumpy, uneven-aged forest structure interspersed with openings that more closely resembles conditions that existed prior to interruption of the historic fire regime.
- Maintain existing large openings and create additional openings.
- Reduce overall basal area to 30- 50 ft²/acre.
- Reduce overall canopy cover to 15-30%
- Reintroduce low intensity surface fire 3-5 years from completion date of mechanical thinning and every 8-10 years thereafter.

2) Designation by Description/Marking Guidelines

- Reduce the basal area/acre of ponderosa pine <18" dbh from 70ft²/acre to a range from 30-50 ft²/acre.
- Trees with diameters from 1 inch to 16 inches in dbh will be targeted to be reduced 60% to a residual density of 70 trees per acre
- Retain all Douglas fire and Rocky Mountain Juniper except when they are a ladder fuel.
- Retain all pre-settlement ponderosa pine.
- Retain all trees over 18 inches dbh.
- Create groups/clumps of trees that vary in size and shape and number and are centered on pre-settlement trees or groups that have the most age/diameter diversity.
- Create openings that range from .5-2.5 acres in size, and are irregular in shape. Total opening acreage will range from 20 - 40 acres.
- Reduce overall canopy cover from 52% to a range of 15-30%.
- Keep crowns interlocked or close in highest density patches.
- Maintain or create 3 snags/acre >10" dbh.
- Maintain or create 80 linear ft/acre of large downed logs > 10" dbh.
- Leave all old downed logs.

The recommendations meet the forest health and ecosystem objectives of BCPOS and the CSFS. The recommendations also address the need to treat and reduce fuels for fire. This will meet goals of fuels management of the BCPOS, CSFS, Lefthand and Lyons Fire Protection Districts, Boulder County Sheriff's and Land Use Departments. Lastly, this project will treat vegetation within a high priority area as outlined in the NFOS management plan.

Figure 7. Overstory Vegetation Data; Basal Area and Diameter Summary (Post-Treatment)

Stand=HVRPA5UB Year=2011 Post cutting				
File: N_004.svs				
Summary is for all species				
Tree list summary:				
Origin:	(0.0,0.0)			
Size:	208.7 by 208.7 (1.00 acres)			
Units:	ENGLISH			
Total objects:	176	(176 per acre)		
Standing live trees (using FVS plant class codes):				
	Mean	SD	Min	Max
dbh	8.4	2.6	5.9	15.6
ht	31.0	5.1	22.0	47.0
Basal area:	29.6		(29.6 per acre)	
Number of trees:	70		(70 per acre)	
Standing dead trees (using FVS plant class codes):				
	Mean	SD	Min	Max
dbh	12.8	3.4	7.2	16.4
ht	35.9	8.1	29.0	47.0
Basal area:	6.6		(6.6 per acre)	
Number of trees:	7		(7 per acre)	
Downed trees and logs (status code 0, 10, 3, or 13):				
	Mean	SD	Min	Max
dbh	8.0	2.1	5.9	14.6
length	29.8	4.3	22.0	43.0
Number of logs:	99		(99 per acre)	

All Figures represent conditions as inventoried in 2009 and treated in 2011 at Heil PA5 Units 8, 9, 10. Figures are outputs from FVS.

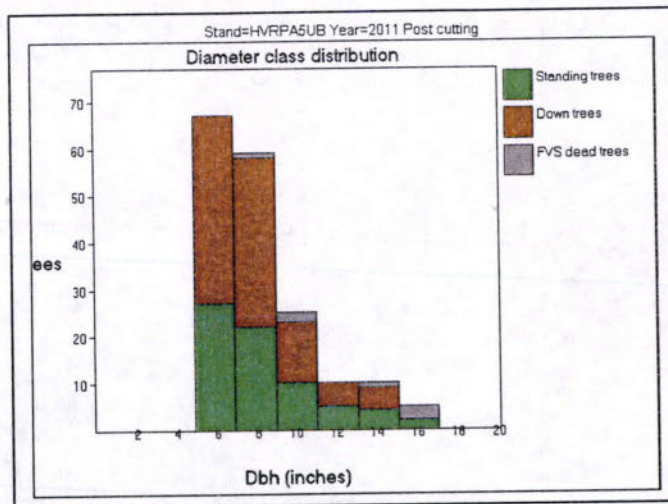


Figure 8. Diameter Class Distribution

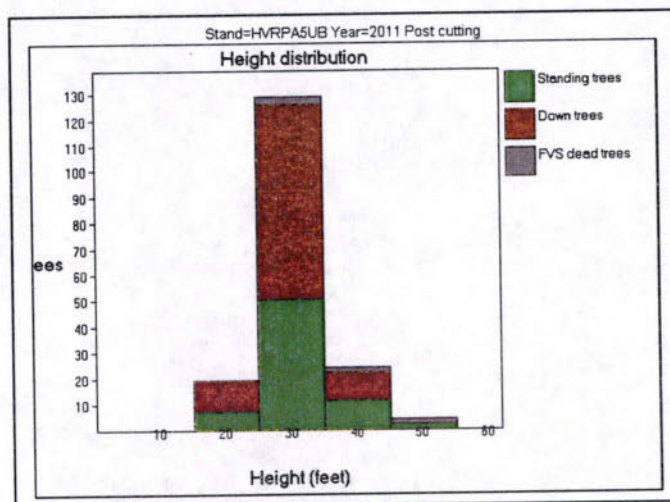


Figure 9. Height Distribution

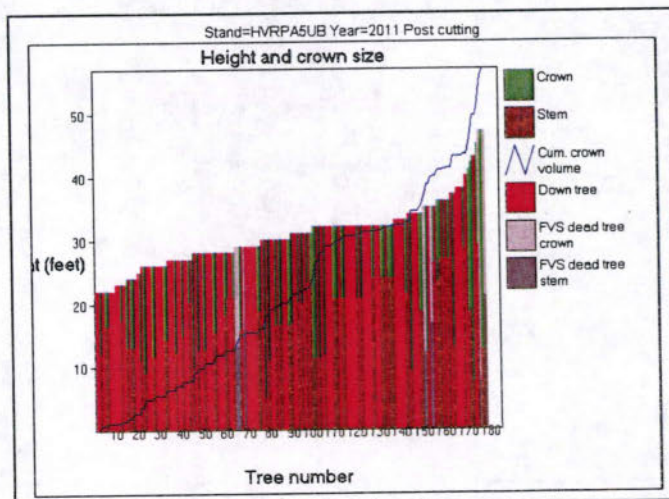
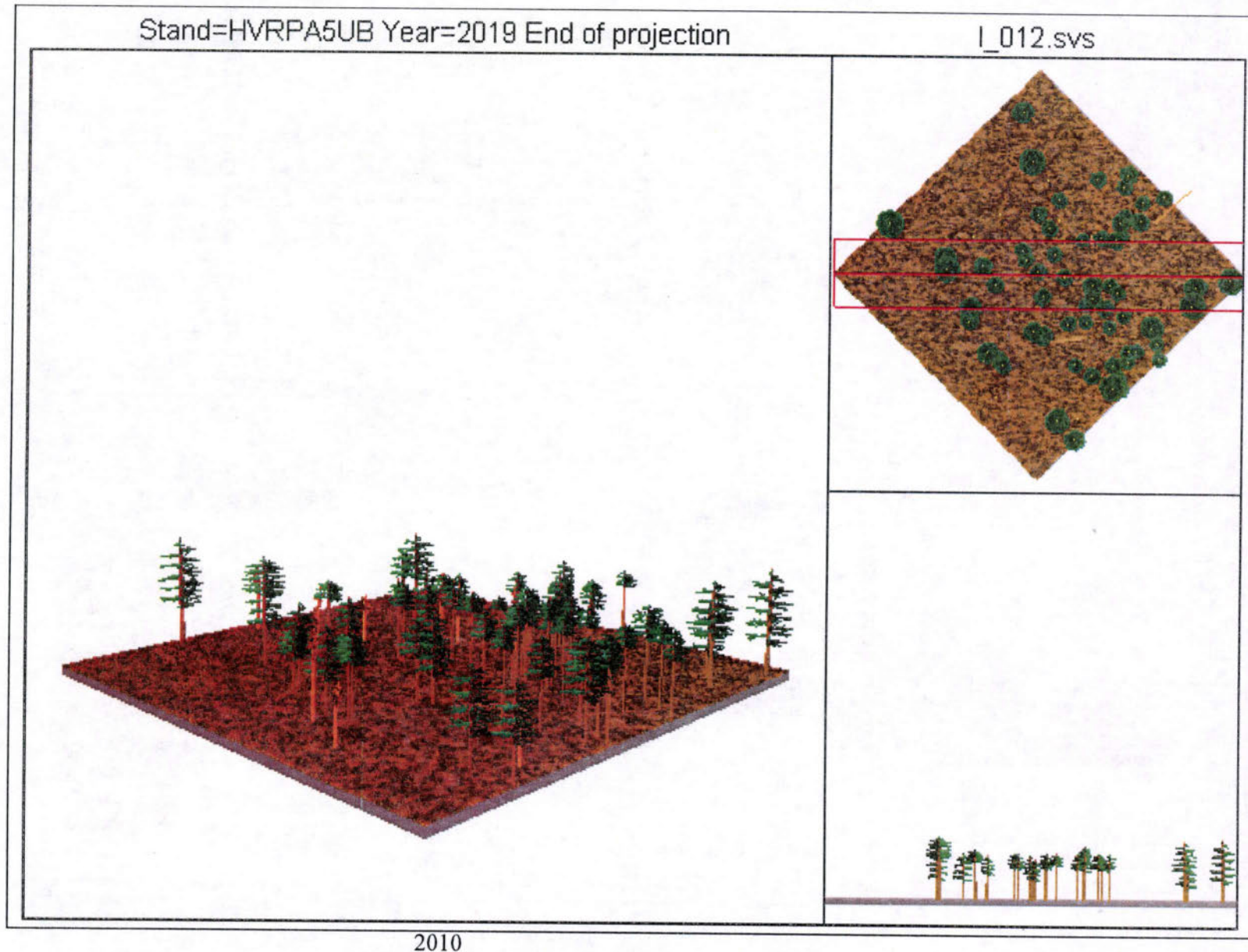


Figure 10. Canopy Base Height and Crown Size

Figure 11. Overhead, Perspective and Side Views



5. Operational Guidelines

A. Unit Layout

- Boundary will be painted in red vertical stripes facing into the unit.
- Landings are flagged in yellow flagging.

B. Project Description

Project will be completed utilizing a fully mechanical cut-to-length (CTL) system. This system entails the use of two primary machines; a harvester that fells, de-limbs, and bucks the tree into standard log lengths at the stump and a forwarder, which loads the logs into bunks (think small off-road log truck) and carries the material to landing for temporary storage or directly loading onto a truck/trailer for transport. CTL harvesting systems as compared to typical skidder operations result in much lower site disturbance and impact, as measured by many parameters.

Slash will be broadcast on site as harvesting operations progress. As the harvester advances, subsequent forwarder traffic will attempt to travel on the "slash mat" wherever feasible. This has the multiple benefit of reducing soil compaction/disturbance; reducing/negating the need for forwarding ("skid") trail rehab, and compacting the slash to a minimal depth to facilitate the future prescribed broadcast burn that will follow the treatment. Slash will be hand-piled within a 100' corridor along the bordering trails and main access road to facilitate a fuel break for the future prescribed burn as well as to maintain/enhance visual aesthetics.

Logs will be transported offsite by the contractor to Alaska Avenue for stockpiling. This will result in heavy truck traffic on the main access road for the duration of the contract. Road damage created as a result of this forestry contract will be repaired with forestry section resources.

6. Rehabilitation of Project Impacts

- Impacts from skid trails will be assessed when project is complete. Ripping, seeding, and erosion control will be considered as possible rehabilitation techniques. Project completion will be late 2011.
- Impacts to main landing will be assessed when project is complete. If compaction has occurred, the landing will be ripped and seeded with a seed mix provided by BCPOS Plant Ecology.
- Impacts to trail system will be assessed throughout the project. Contractor will be required to rehab impacts as they occur.
- Any damage to the existing access road will be repaired by BCPOS Forestry.

7. Monitoring of Post-Project Conditions

- Weeds will be monitored and treated after completion of the project.
- Overstory inventories and photo points noted with survey pins and GPS coordinates should be recollected within one year of the thinning treatment to ensure the treatment parameters were met.
- It is recommended that understory vegetation inventories be completed within five years of thinning treatment, and in five-year increments thereafter. Photo point plots should be recollected within one year of the thinning treatment.
- Slash pile sites, skid trails, and the landing area should be monitored for newly established noxious weed infestations or increased densities of existing weeds.

8. Site Photo Points (On next page)

Heil PA5U9 Photo Points

HVR PA5U9T2P12 North 2009



HVR PA5U9T2P12 East 2009



HVR PA5U9T2P12 South 2009



HVR PA5U9T2P12 West 2009



Heil PA5U10 Photo Points

HVR PA5U10T2P10 North 2009



HVR PA5U10T2P10 East 2009



HVR PA5U10T2P10 South 2009



HVR PA5U10T2P10 West 2009





Administration Office
5201 St. Vrain Road
Longmont, CO 80503

September 2, 2011

Project Manager:
Nick Stremel

Boulder County Parks and Open Space
RFP #5038-08 Forestry Projects 2011 (Heil Valley Ranch)

Fifth Billing - Hauling

Phase 1 (130 acres)

104 acres hauling completed @ \$288.50/acre

30,004.00

Less 10% retainage

-3,000.40

TOTAL DUE

\$27,003.60

Karen S. Morgan

Date

Karen S. Morgan

9-2-11

Please call 970-484-4065 or 970-224-3877 with any questions.