

A District Ranger's Perspective on Aspen Restoration
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Abstract

How do you get an aspen management program started from scratch? How do we take science and turn it into management? Aspen has declined by 64 % in Montana (Jodie Camfield, Power point presentation, 2004). The aspen sites on our district serve as unique sites of diversity and have been neglected for many decades. By developing partnerships with research, peers, and other ranger districts we can start building a successful program. Begin with what you have to work with which might include only a low budget and volunteers but at least you get started. Try new approaches and use known methods of fencing and prescribed fire that deliver results. On the White Sulphur Springs Ranger District we are developing some ideas to sprout our aspen management program.

Introduction

The main key to open the door to an aspen restoration/management program is simply getting started. Getting started means leadership, vision, partnerships and program development. A leader does not have to be the line officer to get started but it is important to gain support of the organization's leadership. The District Ranger's role is to lead others to champion aspen restoration thereby turning science into management. The aspen sites on the White Sulphur Springs Ranger District, Lewis and Clark National Forest have not been proactively managed; however, there has been some effort to treat these sites but it has been minimal because of the lack of or minimal funding. However, it was special funding that did allow the program its start. On the Lewis and Clark National Forest aspen's commercial value is limited except as firewood. The aspen sites have high scenic, ecological diversity and wildlife values. Due to the lack of disturbance through fire suppression and lack of treatment, some aspen sites are overgrown by conifers and others are decadent.

On the White Sulphur Springs Ranger District we have approximately 1,913 acres of aspen (see Appendix 1) on National Forest. This does not account for all aspen sites on the district because stands less than 5 acres are not delineated, other sites have not been inventoried and other aspen are present in mixed conifer sites. Montana's 255,000 acres are scattered among the middle-elevation conifer sites and at the lower forest boundaries (Jones 1985). Although it is a small component it has a big value. The aspen forest type is important for many species of birds and mammals especially in the interior West, where it is the only upland hardwood tree species, and where it frequently is found in groves in the coniferous or as isolated stands in mountain grasslands and shrublands (DeByle 1985). Aspen stands provide an ecological uniqueness and a species diversity value. That value of diversity is expressed in sustaining a healthy population.

Not much, if any, research has been conducted in this portion of Central Montana on aspen.

So how do you take the knowledge of science and move it toward on-the-ground management? I would like to introduce the SPROUT principle when developing an Aspen Restoration Program that could aid in moving, growing or rejuvenating a program. Funk and Wagnall's Standard College Dictionary (copyright 1966) defines sprout – (1) To put forth a shoot; begin to grow; germinate (2) To develop or grow rapidly (3) to cause to sprout.

S = Start. Get started, no matter how small. If you wait until you get enough funding you may never get started. Start building momentum through your own enthusiasm. Empower and support your staff to creatively move forward. Start taking the lead. Don't wait for someone to take the lead, go ahead and take the lead yourself. Start with volunteers or a program that funds interns. Start with your vision for your area and express the big picture clearly state what you see as the desired future condition. Start small and build up credibility and confidence. Start influencing. Sociologists say that even the most introverted individual influences 10,000 other people during his or her lifetime.¹ Start selling the idea (Pat Pierson, personal communication). Get started!

P = Partnerships. Someone has said "Seek out partners that have similar goals and connect with a cause waiting to happen." Partner with our public to gain their support to accomplish management. Partner with local managers, researchers, universities and those who have experienced success in managing aspen. On the Red Lodge District of the Gallatin National Forest partnerships have been developed with the Rough Grouse Society, Audubon Society and the Montana Fish, Wildlife and Parks (Pat Pierson personal communication). Connect with those champions who have a strong desire to make the vision a reality. There are many partners out there looking for a cause to connect with. Seek them out.

R = Reproduce Success. There are many resources to develop prescriptions from including research articles, management implications and past conference and symposium proceedings. A great source of knowledge and experience to help you succeed in your management strategy are from local land managers who have tried different approaches of prescribed burning, fencing, cutting, and through trial and error have found out what works.

O = Organize your program. Organize a strategy for funding through partnerships, your budget, volunteers, interns and seasonal employees. Organize an inventory to determine stands at the highest risk to determine treatment. Organize a plan to proceed including how to do your public involvement/scoping, and the appropriate National Environmental Policy Act (NEPA) document. Organize a prescription/treatment.

U = Unify your organization. Unify your team and allow them to develop the vision of this project because their ownership is essential for success. A unified vision with ownership brings support for the future and buy-off with the staff, leadership and our partners (our publics).

¹ Maxwell, John, Leadership 101, Nashville: Thomas Nelson, Inc., 2002

T = Teamwork. It takes a team to meet the common vision. Develop your dream team. The team consists of many specialists that bring to light different perspectives, expertise from their professional disciplines that are needed to achieve the common vision of aspen restoration. These disciplines of wildlife, fisheries, soils, hydrology, silviculture, landscape architecture and many more only help the team come up with solid proposals. An approach that could be utilized is a 3 to 5 year integrated vegetation management plan that includes timber management, fuels treatments, and aspen treatments for out years and could be a very successful team approach to a team effort and an agreed out year budget request system. Teamwork brings cohesion, cohesion brings a unified purpose. Where there's a will there's a way; where there's a team, there's more than one way.² John Maxwell stated "Collaboration is multiplication." If we are willing to work with others, to yield someone else's expertise in an area, to put cooperation above our individual interests, and to allow others to succeed on their own areas of proficiency, then we will accomplish more than we could ever do alone-more than we ever dreamed possible.³

Good Teamwork = Good Team Planning = Good Decisions = Good Projects (Gary Hanvey, personal communication)

² Maxwell, John, Laws of Teamwork, Nashville: Thomas Nelson, Inc., 2001

³ Harris, Katherine, Center of the Storm: practicing principled leadership in times of crisis, Nashville: Thomas Nelson, Inc., 2001



Figure 1 - Moose Creek Aspen Regeneration

What we have done

The start of our current management has been through some prescribed burning and some temporary electrical fencing. We have seen some good responses with abundant suckering and height growth in existing saplings. The decrease in grazing and the disturbance from prescribed fire has increased root suckering and height.

The aspen stand treated in Moose Creek (Stand A) shows a response (see Appendix 2). This stand was prescribed burned in October 21, 1999. Actual weather conditions are found in Table 1. Fuel Moisture was less than 10% for 10 hour fuels and 8 to 10 feet for average flame length.

Table 2 – Actual Weather Conditions

Time	Temperature	Relative Humidity	Wind Speed/Direction
1230	59	30	SW 3-5
1330	60	31	SW 3-5
1430	61	32	SW 3-5

The Moose Creek Unit (Stand A) (see figure 1) treated by prescribed burning shows an average of 2,568 stems/acre from three random plots (see Appendix 3). It appears that there is some damage from elk and cattle but it is minimal.

The Sheep Creek Unit (Stand D) was originally set up with an electric fence (see figure 2) powered by a solar powered battery to develop sufficient 1 hour fuels (grass) for greater intensities to kill overstory. However, along the way we discovered that the fence protection alone was giving protection enough from grazing to increase suckering/stems per acre and height growth of existing saplings. Currently, we have had little to no grazing for the last 3 years. A field review in early August showed an increase in 1 to 1.5 feet in height from 2003 to 2004. The regeneration was patchy and saplings height ranged from 3 to 4 feet.



Figure 2 – Sheep Creek Electric Fencing

A possible inexpensive treatment could be electrical fencing for 3 to 5 seasons to establish seedlings and aspen. Our annual estimated cost for 2004 to install the electric fence, maintenance and take down is approximately \$1,500 for 76 acres. The approximate cost for electric string, solar panel/battery and fence posts are \$1,300. This is an inexpensive approach to protecting aspen seedlings/saplings that have had some elk and cattle damage.

Where are we going?

We are growing and expanding our aspen program by building partnerships with research and other organizations. Our hope is to build a relationship with research in central

Montana to launch a program that treats a variety of sites with different methods (cutting burning, ground disturbance) of this diminishing ecological niche.

Ultimately, we put our thoughts into action. Sir John Browning states “People judge you by your actions, not your intentions. You may have a heart of gold, but so does a hard-boiled egg”

References

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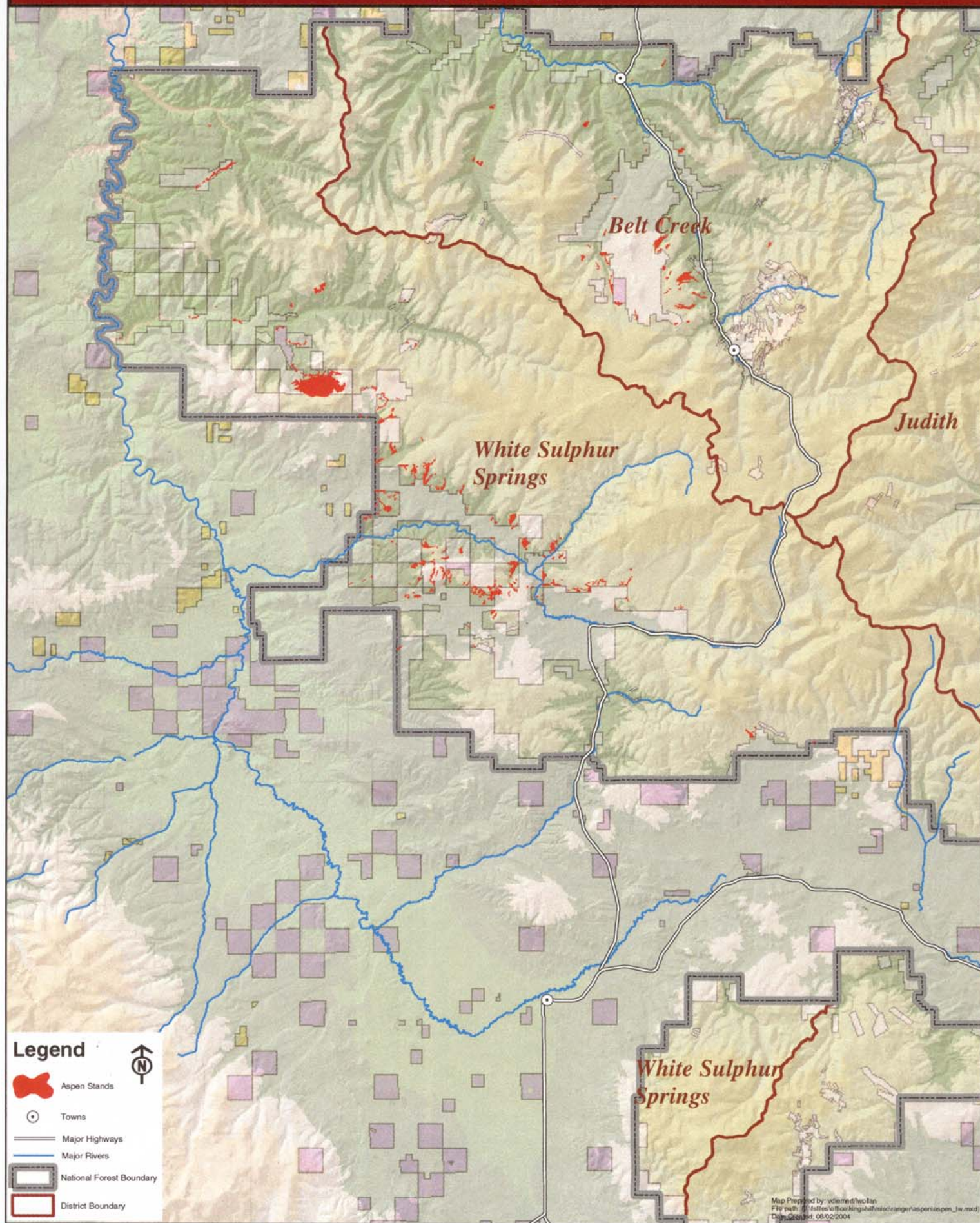
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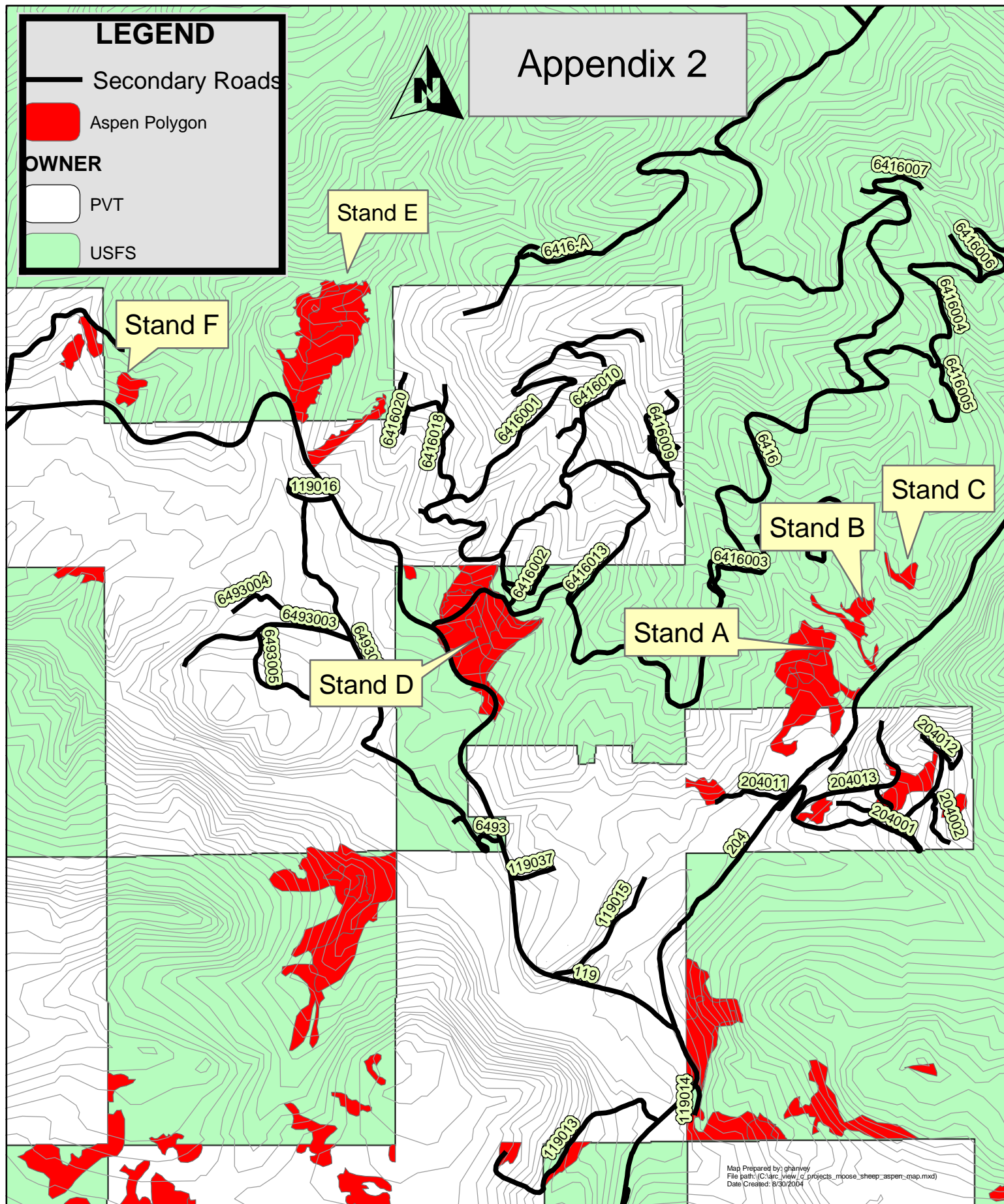
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White Sulphur Springs Ranger District Aspen Stands

APPENDIX 1



Moose-Sheep Creek Surveyed Aspen Stands



Appendix 3

2003 ASPEN SURVEYS

Bill Long, Wildlife Technician, Lewis and Clark National Forest
Gary Hanvey, Wildlife Biologist, White Sulphur Springs and Belt Creek Ranger Districts

Approximately 202-acres of quaking aspen (*Populus tremuloides*) areas were characterized by a sampling scheme developed by J. Fredericks, former Wildlife Biologist, Kings Hill Ranger District. Using Arcview themes (B1000 and R1400) provided by Eldon Rash, the Rangeland Manager in the Lewis & Clark S.O., I located general areas to sample in the Indian Creek and Moose Creek drainages. I further defined the search for aspen by simply scouting-out areas with 1999 aerial photos that suggested the presence of aspen in the canopy. Since most aspen patches are not delineated as distinct "stands" in the TSMRS and since most are relatively small in size (0.5-5 acres), I modified Frederick's sampling procedure by non-randomly locating sample plots within aspen patches to assure the belt transects would fall within the perimeter of an aspen patch and not open ground. One important note on recording Overstory Age: this is not a precise value due to the presence of heartrot or core samples that were mangled and unreadable, so my data reflects the minimum age I could ascertain. Additional aspen areas I intended to scout if I had time were in the Cabin and Pole Creek drainages of Sheep Creek, an area west of Moose Pass in Section 22, small patches west of Highway 89 between Crawford Creek and Slaughterhouse Gulch and near the head of Blanding Gulch. I suspect these last three drainages may have examples of non-cattle grazed aspen due to their remote locations, but this is merely speculation. Eldon Rash's coverage themes B1000 and R1400 also show many more acres of *Populus*, primarily in the Sheep Creek drainages, that may be suitable for surveying. The following is a summary of the locations of plots and some qualitative notes pertinent to the sampled parameters. Refer to the data forms for specific tree tallies, ground coverages, etc. The easiest way to locate these sampled areas is to use the accompanying area maps along with the UTM's with the GPS datum set to NAD27Central.

Stand A 34-acres 3-plots lower Moose Creek

This stand was prescribe-burned in 2001 resulting high conifer mortality. Surviving aspen are over 90-years old with a 5-20% canopy closure based on ocular estimates. Has a wet area of sedge meadow with reduced seedling stocking. Currently being grazed by ~24 cows.

Stand B 6-acres 1-plot lower Moose Creek

Not currently grazed and no evidence of grazing during the past few years. Over 80-years old with 65% canopy closure based on ocular estimate.

Stand C 4-acres 1-plot lower Moose Creek

Not currently grazed and no evidence of grazing during the past few years. Over 70-years old with a 40% canopy closure.

Stand D 76-acres 4-plots along 6416 road

This stand is being treated with a seasonal electric fence exclosure however ~24 cows breached the fence and lightly grazed the interior for approximately 5-weeks during July and August. Over 100-years old with canopy closures between 25 and 60% and declining as mature trees succumb to old-age and decay.

Stand E 55-acres 4-plots Indian Creek

Currently being grazed. Ages between 60 and 90-years. Canopy closures typically between 50 and 65%. Plot 1 seedlings appear heavily grazed. Plot 3 has a canopy closure of 5% and particularly high die-off of 1-3-foot tall seedlings.

Stand F 6-acres 1-plot 1-mile west of Stand E

Currently grazed. Over 50-years old with canopy closure of 30%. Canopy appears healthy and vigorous.

Wolsey Creek Plots access off 6412 road

Stand G is in an 11-acre aspen patch with 1 plot. Recently grazed though not certain about this season. Over 80-years old aspen. PICO codominate with aspen in the canopy with PICO accounting for 60% of the canopy and about 90-years old and an overall canopy closure of 30%.

Stand H is in a 10-acre aspen patch with 1 plot. Located at a meadow edge receiving heavy cow grazing. Aspen age is over 100-years. PICO make up 50% of the canopy and they aged at between 100 and 115-years old.