

FOREST AGRICULTURE and STEWARDSHIP INCENTIVES PLAN

For:

HAROLD HEAFER
34655 Boulder Canyon
Sunnyside
Boulder, CO 80302

Parts of the:

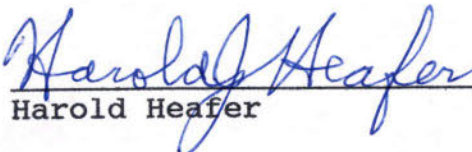
Empress (M. S. 12614),
Belford (Unpatented; M. S. 17375),
Lincoln (Unpatented; M. S. 17375),
Adele (M. S. 18036),
Anna G. (M. S. 18036),
Blue Jay (M. S. 18036),
Everett (M. S. 18036),
Georgie Marie (M. S. 18036),
Harold Extension (M. S. 18036),
Hazel (M. S. 18036),
Independence (M. S. 18036),
Monarch (M. S. 18036),
Oro (M. S. 18036),
Post Boy (M. S. 18036),
Washington (M. S. 18036)
and
East Slope (M. S. 20605)
Mine Claims.

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This management plan has been prepared at my request to guide my forest management activities which I voluntarily apply on the property. Activities recommended in this plan are appropriate to meet my objectives and will benefit the natural resources on the property.


Harold Heafer

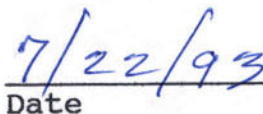

Date

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OBJECTIVES

The forestry objectives for this property are:

1. Consistent with the Forest Stewardship and Forest Agriculture Programs, to improve health and vigor of the forest and enhance its productivity.
2. Practice silviculture and multiple use management, giving particular attention to protection of wildlife habitat and recreational qualities of the area.
3. Preserve the aesthetic qualities of the property.
4. Protect soil and water resources.

GENERAL DESCRIPTION

Property Location

Black Tiger Tree Farm is located on the north side of CO-119 (Boulder Canyon Road), about 5.5 miles west of Boulder.

The property is located in Section 31, Township 1 North, Range 71 West, Sixth Principle Meridian, but a legal description would be impossible.

Area: The property contains 63.8 acres, counting 7.8 acres of unpatented claims. Surface and timber rights are owned on 56.0 acres (The measurement technique, using County Assessor's maps, allows an error of ± 1.6 acres.). Of this, 17.7 acres are currently "forested" (See below.):

Non-stocked	33.5 acres	Forest Agriculture, Burned
Ponderosa	<u>17.7</u> acres	Forest Agriculture, Unburned
	51.2 acres	FOREST AGRICULTURE ACRES
Non-stocked	3.8 acres	Stewardship, Burned
	<u>1.0</u> acres	House and Yard
	56.0 acres	STEWARDSHIP ACRES
	<u>7.8</u> acres	Unpatented; no timber rights
	63.8 acres	TOTAL ACRES IN PROPERTY

Unpatented claims are excluded from both Stewardship Incentives and Forest Agriculture because you do not have control of the trees and cannot prevent their being cut or otherwise destroyed, however unlikely that is in this case.

The three small parcels, totalling 3.8 acres, are eligible for Stewardship at your option, but not eligible for Forest Agriculture because they do not meet the 40-acre minimum.

The 3.8-acre figure is questionable. The map I had to work with did not show the west end of the Oro claim, which may have been overlapped by over claims, reducing the acreage.

Boundary Monuments: No attempt was made to locate boundary monuments during the course of preparing this plan. Treatment areas will have to be laid out before field work can be started. This will require precise location of property lines, either by CSFS or a surveyor.

Access: A driveway from Boulder Creek Road to the old mines provides the only access to this property. Most of the property is steep; work will be difficult.

TOPOGRAPHY

Slopes and Aspects: Most aspects on the property are northeast with slopes of 70% or more. In the unburned area, slopes tend more to the southeast at about 30%, on average.

Elevation: The lowest point on the property is where Black Tiger Creek reaches the highway (approximately 6390 feet above sea level). The highest point is approximately 7200 feet above sea level at the west end of the Oro Mine Claim.

Geology: Precambrian rocks now about 1.8 billion years old were intruded about 1.7 billion years ago by Boulder Creek Granodiorite. This formation is bedrock throughout the property.

A north-northwest trending fault of Precambrian Age crosses the property, passing about 200 yards northeast of the house. It has occasionally been reactivated.

Lower Paleozoic rocks (Cambrian through Mississippian) are missing in this area. It is thought that these rocks once existed, but were eroded away during Early Pennsylvanian times when the Boulder area was uplifted on the northeast flank of the Ancestral

Front Range uplift, one of several northwest-trending mountain ranges that comprised the late Paleozoic Ancestral Rocky Mountains. These mountains (Ouachita Orogeny) resulted from the re-activation of Precambrian structures when Africa collided with South America and the southern edge of North America. Gravel and sediments washing off the Ancestral Front Range were deposited as the Fountain Formation which was later uplifted to form the Flatirons. By the late Paleozoic period the Ancestral Front Range was eroded to a set of low hills.

In the Early Cretaceous period the area began to subside and was eventually buried under almost 10,000 feet of marine sediment (Pierre Shale).

In the Late Cretaceous-Early Tertiary period (about 67.5 million years ago), the Laramide Orogeny uplifted a mountain range with much the same configuration as the present day Front Range. Erosion about balanced uplift so that the relief was never great, much less than at present. By the Late Eocene the uplift ceased, leaving a low-profile range of hills. Most of the faulting and eastward tilting that raised the Flatirons into position occurred during the Laramide Orogeny.

Intrusive volcanic activity occurred to the northeast during the Paleocene, creating the Valmont dike and other igneous formations. Mineralization that produced the Colorado Mineral Belt, of which these mine claims are at the northeast end, occurred in the Late Cretaceous-Early Tertiary Periods.

During the Oligocene this region was reduced to a plain, similar to eastern Colorado today with an elevation of about 3000 feet. In the Miocene, thermal uplift and east-west expansion formed the Rio Grande Rift and began the rise of the modern Front Range, which continues to rise today.

The property has never been glaciated (The nearest glacier reached Nederland.). The elevation was too low and the ice melted before the glacier ever got this far. Post-glacial climate fluctuations have had major impacts on plant life and continue to have an effect, even now.

Soils: Soil maps for western Boulder County have not been published; Soil Conservation Service agronomists are in the process of doing this at this time. The following is my attempt at soil identification.

Ferncliff stony sandy loam occurs on northeast facing slopes on this property. These soils occur in loamy mixed alluvium on short fans and valley side slopes. Slopes run from 15% to 60%. This soil is occupied by the ponderosa pine/Douglas-fir ecotype. Annual precipitation is 18 to 24 inches; the frost-free growing

season is 80 to 120 days.

The surface layer (A1) is composed of dark grayish-brown stony sandy loam and is about three inches thick. The subsurface layer (A2) is composed of light-gray stony sandy loam and is about 17 inches thick. The subsoil contains A&B and B&A horizons. Rock occurs at depths of 60 to 80 inches.

Permeability is moderate to moderately rapid; available water capacity is moderate; root penetration is 60 inches; moderate amounts of stone occur throughout the profile. Reaction is slightly acid at the surface to medium acid in the subsurface, becoming slightly acid again in the subsoil.

Erosion hazard is slight (Land capability group VIIe-1, nonirrigated; tree suitability group 1). Standard silvicultural practices apply.

Juget very gravelly sandy loam occurs on slopes and ridges in sandy residuum weathered from granite. It is shallow and excessively-drained. Slopes range from 9 to 55%; elevation ranges from about 7300 to 7525 feet above sea level. It is occupied by the ponderosa pine/Douglas-fir ecotype. Annual precipitation is 14 to 18 inches; the frost-free growing season is 80 to 120 days.

The surface layer (A1) is dark-gray very gravelly sandy loam about 5 inches thick. There is no subsoil. The C horizon consists mostly of decomposed granite. Hard granite occurs at a depth of 11 inches.

Soil reaction is slightly acid; permeability is rapid; available water capacity is low; root penetration is less than 20 inches. Vegetation is of the ponderosa pine/Douglas-fir ecotype. Grass cover should always be maintained to prevent erosion.

Runoff is rapid; erosion hazard is high (Land capability class VIIIs-1, nonirrigated; tree suitability group 2).

Land capability class VIIe-1 (Nonirrigated). Major uses of these areas consist chiefly of forests and wildlife. Standard silvicultural practices are needed to prevent soil erosion. Protection from fire, insects and disease is needed to protect the soil. Thinning activities are feasible. If grazed, no more than half of the current year's growth should be removed. Arizona fescue, mountain muhly and pine dropseed increase under proper grazing. Grass seeding not practical because of rock and trees.

Land capability class VIIIs-1 (Nonirrigated). These sites are generally used for range and wildlife practices. Special care is needed in applying silvicultural practices. Permanent vegetation should be maintained. Suitable range grasses include big bluestem, little bluestem, needlegrass and side-oats grama. A

maximum of half the vegetation may be grazed each year. Grass seeding is difficult or impossible due to steep terrain, rocks and stones.

LOCAL MARKETS

Sawtimber markets in Boulder and vicinity are severely limited and irrelevant to anticipated activities on park land. Firewood markets are weaker than they were ten years ago, but still readily able to handle any expected cutting. There will be no product removal on the burned area in the foreseeable future. Minor thinning in the unburned area may produce products that could be sold, but only in very small quantities.

TPOLOGY AND STAND IDENTIFICATION

Western forests are typed by the dominant tree species occurring, provided that species makes up a plurality of stocking. When no species makes up at least 20% of the stand, the type is listed as "mixed." The stand along the highway is dominated by a single species (ponderosa pine).

Size classes are as follows:

- Class 1A: Seedlings (Less than 4.5 feet tall).
- Class 1B: Saplings (4.5 feet tall to 5.0 inches DBH).
- Class 2A: Small poles (5.0 to 7.0 inches DBH).
- Class 2B: Large poles (7.0 to 9.0 inches DBH).
- Class 2C: Near-merchantable (9.0 to 11.0 inches DBH).
- Class 3A: Small sawtimber (11.0 to 15.0 inches DBH).
- Class 3B: Medium sawtimber (15.0 to 21.0 inches DBH).
- Class 4: Large sawtimber (21.0+ inches DBH).
- Class 5: Large old growth (21.0+ inches DBH and dating from pre-settlement).

A stand is classified by adding together stocking figures, starting with the highest class, until a minimum level of 325 trees per acre, 10 square feet of basal area per acre or 1500 board feet per acre is obtained over a minimum 3.0-acre area. This means that trees larger than the listed size class may occur in small numbers. Classes 2C through 5 are typed by board foot volume; classes 1B through 2B are typed by basal area and class 1A is typed by stem count.

Pre-settlement stands in Boulder County are those with stand birthdates (See below.) of 1850 or earlier (Age: about 140 years).

There are no Class 3, 4 or 5 stands on your property. Stand

birthdates are determined by taking mean age weighted by volume, basal area or stem count, as above, and subtracting that from the current year, rounding the result to the nearest decade. It is possible for a younger, faster-growing class of trees to overtake an older, slower-growing class and change the stand birthdate, without any other change in the stand.

Typology:

Unpatented: Non-stocked due to fire.

Stewardship Land (Small parcels): Non-stocked due to fire.

Forest Agriculture Land (Burned): Non-stocked due to fire.

Forest Agriculture Land (Unburned): Ponderosa pine, large poles (Class 2B), medium stocked, birthdate: 1890.

LAND USE

CURRENT: The south end of the property is used as a homesite. The burned areas are not currently being used for anything. If re-stocked with trees, it has the capacity for eventual product production. In the meantime, stands of young trees provide aesthetic enhancement and recreational and wildlife uses for the area.

HISTORICAL: The current ecology originated at the end of the Pleistocene, about 11,000 years ago. Species that now occur here, such as ponderosa pine and Douglas-fir, extended far out onto what is now the Great Plains. Species now common around 8000 to 9000 feet, such as lodgepole pine, Engelmann spruce and subalpine fir grew here. In addition, many plant species that now exist only in moist refuges.

During the Altithermal, about 7000 to 9000 years ago, the climate became even warmer and dryer than it is now. Plant species once common, became restricted to moist areas near small streams on north-facing canyon walls. One such stream nearby is the tributary that enters Lost Gulch from the southwest.

The current forest originated about 1760 following a major fire. This is surmised from the existence of a class of Douglas-fir in nearby stands, all dating from about the same decade. The only known agent capable of large-scale land clearing over thousands of acres, is fire.

About 1853 a large fire burned the area west of Boulder. According to local legend, this fire was set by Arapahos, angry at being cheated by whites. One suspects this legend sprang up later so that whites would not have to take the blame.

Nearly every tree in Black Tiger Gulch was cut during the mining booms of the 1870s and 80s to provide steam for hoists and mills. The pre-fire stands date from about 1890.

Ranching was never considered very profitable when there were millions to be made in mining. Black Tiger Gulch may have been used for access, moving cattle to and from water and markets, but it was never used much for grazing.

In July, 1989, the Black Tiger Fire destroyed most of the trees on these properties. The northerly portions of the property were seeded with grass by air the following spring. Mostly, the sites are now occupied by broadleaved plants that came up from seeds since the fire.

DESIRED CONDITIONS

Healthy, vigorous, fully-stocked stands of trees are required by the Forest Stewardship and Forest Agriculture Programs. This condition need not be achieved immediately, but progress should be made in this direction.

Stewardship requires a wildlife-habitat enhancement practice, such as a shelter or food thicket. This is desirable, providing the wildlife (deer) do not eat up the seedlings.

IMPACT ON NEIGHBORS & NEARBY COMMUNITIES

Your immediate neighbors will see seeding and planting work, such as seedlings being taken to the site, or a planting crew at work. Reforestation sites are screened by intervening hills and trees. It would be preferable if the reforestation work could be seen: your neighbors will think you are doing a great job. Visual impacts will be gradual: Three years after establishment, the first seedlings appear above the grass, then others gradually show up. A new forest returns so slowly that nobody notices, yet after fifteen years, a vigorous sapling stand occupies the site.

INVENTORY

Unpatented: The Black Tiger Fire burned these claims flat. No living tree remains. The dead trees are small and consist mostly of ponderosa pines, now decaying to the point that no salvagable product remains. Grass and broadleaves now occupy the site. There is a narrow riparian zone along Black Tiger Creek that would support a variety of different trees and/or shrubs. The rest of the area is ponderosa pine climax that would support an

occasional Douglas-fir accidental.

These sites could benefit from reforestation and/or wildlife habitat enhancement work. For a person truly interested in protecting and caring for the land, they offer numerous opportunities.

They are ineligible for the Forest Agriculture and Stewardship Incentives Programs. The landowner must control the trees and on these two claims, you only control minerals. Nevertheless, if you should wish to do reforestation or other work here, the Colorado State Forest Service can assist with technical advice, seedlings and access to information.

Without trees, there is no problem with insects or diseases. Tip moths are often a problem for new pine seedlings, but any planted here will be a long way from other pines and are not likely to be attacked.

Fire hazard has changed little as a result of Black Tiger Fire. Dry grass will carry flames just as fast as a pine forest. Black Tiger Gulch could burn again, as I write this.

These two claims are among the more-accessible parts of the property. Nevertheless, they are on steep ground where activities will be difficult. Seedlings, seeds, weed barrier or other materials could be hand-carried to the site.

An access trail comes within one-half mile of the site. There are old mine trails all over the gulch, some of which might be reopened. I have heard that shortly after the fire, a forester in a pickup made a complete transit of the gulch, but I don't know how this was done. Equipment and materials could be carried up the streambed.

In this portion of the gulch new riparian zones are developing along Black Tiger Creek. The green line is restoring itself. Additional trees and shrubs might be added to accelerate and enhance this process.

Silviculturally, the objective is to reforest these claims. Activities related to establishing a new stand are the only ones anticipated in the foreseeable future.

There are no cultural features on these particular claims.

In a sense, the many broadleaved plants could be considered weeds. Canadian thistles occur commonly throughout this site and higher up the gulch, there are vast stands of them. As these are far-removed from neighbors, there have been no complaints.

During the site examination, woodpeckers were heard drumming from

this direction. Chickadees and nuthatches were also observed. Bear scats have been reported along the creek, and deer trails and droppings are very common (Black Tiger Creek is the only available source of water in the vicinity.).

The property is located in the Georgetown block on the threatened and endangered species list. Protected species in this block include:

1. the American peregrine falcon,
2. the bald eagle,
3. the interior least tern,
4. the greenback cutthroat trout and
5. the montane skipper (butterfly).

For the most part, these species do not make use of the area. The tern is a shore bird and prefers large lakes and rivers; and Black Tiger Gulch frequently goes dry and cannot support trout. The montane skipper occurs only in Cheeseman Canyon and its tributaries and does not reach Boulder Canyon. There are no nesting sites for eagles or peregrine falcons (There are no cliffs or suitable trees.). This site is within the hunting territory of a falcon nest near Twin Sisters.

No endangered or threatened plant species were observed (A thorough survey would require repeated visits to likely sites throughout the course of a year, something beyond the scope of this plan.).

This site cannot be seen from a road. There are houses at the top of Black Tiger Gulch from which people can see portions of it, if they know where to look, but one small group of dead trees looks like all the other dead trees in the gulch. For several years following the fire, gradeschoolers from Nederland spent a day walking through the gulch and studying "ecology." The two routes used, both crossed these claims. This tour did not occur in 1993.

Unless test pits can be considered archeological sites, there are no such sites on either of these claims.

Stewardship Land: The entire property, excluding the unpatented claims, qualifies for Stewardship Incentives funding. These three parcels are designated "Stewardship Land" because that is all they qualify for. Due to their small size and being detached from the rest of the property, they do not qualify for Forest Agriculture (In frustration, Boulder County has been declaring all of a property eligible for Forest Agriculture if any substantial part of it qualifies; it may decide to grant the designation to these parcels, as well.).

There are no live trees on these parcels. The few dead ones are inaccessible for salvaging and have decayed to a condition where they are no longer merchantable.

Again, when there are no live trees, there is no problem with insects or disease.

These parcels are located on a steep hillside where they would immediately burn if a fire started below them. Grass and broad-leaves spread fire quickly and standing snags throw sparks.

Operations of any kind are limited by steep terrain, fragile soils and remote location. Seedlings, seeds and tools have to be carried up a steep hill. There are no trails to these sites.

There are no riparian or wetland areas on these parcels.

Reforestation is the only silvicultural practice that is at all likely during the next thirty years.

No cultural features were observed in this stand.

Canadian thistles occur on this site, but because of its remote location, they are not considered a problem.

No wildlife activity was observed on this site. The high, dry location makes this a low-priority site for wildlife practices.

The property is located in the Georgetown block on the threatened and endangered species list. The situation here is exactly the same as for the unpatented claims.

Forest Agriculture Land (Burned): This area is eligible for both Forest Agriculture status and Stewardship Incentives funding. It is also more-accessible than the first two areas.

The stand was destroyed in the Black Tiger Fire. Like the other two sites, there are few dead trees and ones that exist are not salvable due to condition and access problems.

Where there are no trees, there is no disease or insect risk.

With its grass cover, this area will burn readily in another fire (Fuel Model 1, with snags). Ownership patterns and steep topography prevent construction of effective fire breaks.

Operations of any kind are limited by steep terrain and fragile soils. Access is better than on the first two sites, as a four-wheel-drive vehicle can reach the lower part of the stand. Supplies and equipment will have to be hand-carried to the actual work location, but the haul will be shorter.

Black Tiger Creek crosses the stand in two places. At the northern end, there is some recovery of the streambank following the fire. At the southern end, the creek banks have been scoured clean by seasonal floods. A "riparian zone" does not yet exist at the southern location.

The silvicultural objective is the reforestation of this stand. This will be the only activity during the ten-year life of this plan.

There are several "glory holes," drifts and shafts on this site. The question is not so much one of "protecting" these cultural features as of protecting people from them (The State Division of Mines capped one of these shafts several years ago to keep people from getting hurt in it.).

Canadian thistles are the main "weeds," but, again, due to the distance from houses and roads they are not considered a problem here. As the site is reforested, trees will eventually force out thistles.

There is very little wildlife shelter (no trees or shrubs). The best site for wildlife plantings is the eastern end of the Adele claim (This claim runs along a small tributary of Black Tiger Gulch; consequently, it has the best available soils.). As wildlife plantings usually mean "shrub plantings" and shrubs are usually bare-root and weigh a lot less than pots and as the access is the creek-bottom (the best in the vicinity), this is an excellent site for these plantings.

The stand is located in the Georgetown block on the threatened and endangered species list. Comments above, apply here.

Like the others, this stand is not visible from the highway. Most of it is too deep in the canyon to be seen from houses on the ridge to the north. After many years, some trees may get tall enough to be seen above ones closer to the road.

Again, there are no archeological sites on the site, unless one considers old mines to be archeological sites.

Forest Agriculture Land (Unburned): This stand meets all requirements for the Stewardship Incentives Program. When its 17.7 acres is added to the 33.5 acres adjoining it, it also meets Forest Agriculture requirements.

This is a ponderosa pine, large pole stand. Sawtimber stocking totals about 1100 board feet per acre, on average. The stand averages 108 square feet of basal area per acre, or about 203 trees. The stand originated about 1890, apparently following the Boulder Canyon Fire of 1889. Stocking is medium.

This stand was ignored by mountain pine beetles during the 1970s, probably because it is wetter than others more acceptable to the beetles.

This site escaped the devastating crown fire that destroyed the other stands, mostly because of its low position on the hill. Surface fires could burn it again, but crown fires are unlikely. Defensible Space practices are needed to build fire resistance into portions of the stand adjacent to houses.

Steepness of the terrain creates problems on most of the site. The limited area, steep ground and proximity to buildings combine to make commercial operations impractical. The ideal approach would be for the owner to harvest firewood for his own use, spreading thinning operations over ten-to-twenty years. Some work is eligible for cost-sharing support under Defensible Space and pruning practices.

The riparian zone along Black Tiger Creek was wiped out by floods following the fire. It is starting to recover, but has a long way to go, particularly when each year's progress is destroyed by the following spring's flood. Low-cost erosion-control structures are needed to stabilize the stream and allow wetlands to recover.

Silvicultural objectives are to protect the site, employing Defensible Space practices near the buildings. Farther up the hill, these same practices would provide fire resistance to the stand. If it should burn again, most of the treated trees would survive.

Two houses and other buildings are located in this stand. These need to be protected from fire (Defensible Space) and shielded visually from the highway. These are the only "cultural features" present.

"Noxious weeds" are kept under control by the overstory of trees. Large gaps in the crown cover should be avoided wherever possible.

This stand provides cover close to water. It may have possibilities for deer. It is located in the Georgetown block on the threatened and endangered species list. Comments above, apply here, as well.

This stand is adjacent to Boulder Canyon Road (CO-119). Care needs to be taken to protect scenic values along the highway. Also, the owner's house is located in it; scenic protection is needed for this reason, also.

There are no known archeological sites in this stand.

PRESCRIPTION BY MANAGEMENT UNIT

Unpatented Land: Reforest. This must be done without cost-sharing and will have no effect on Forest Agriculture status. The sites also have difficult access problems. As such, this should be considered low-priority, to be done only after other sites have been brought up to standard.

Reforestation, if and when it occurs, should be with a combination of shrub plantings along Black Tiger Creek and seeding using chemical site preparation. Seedlings will need protection from deer.

Site plans, prepared just before an operation is implemented, will provide specifics of species, pounds of seed, chemical to use, deer protection method, etc. Boundary lines will need to be located.

Stewardship Land: Reforest. These sites are eligible for Stewardship cost-sharing, but because practices here have no effect on Forest Agriculture status, these also should be low-priority.

Access is very difficult due to steep terrain. Seeding is preferable to planting because of the problems of getting enough seedlings to the site. The site should be seeded with a mixture of ponderosa pine (75%) and Rocky Mountain junipers (25%). Specific site plans will be needed, as will boundary line location.

Forest Agriculture Land: Reforest. This area is currently non-stocked. Without its acreage, you do not qualify for the Forest Agriculture Program. To solve this problem, a new stand needs to be established immediately. This can be done by seeding the area with ponderosa pine seeds. This will require $22\frac{1}{2}$ pounds of seed. Other species such as Douglas-fir and Rocky Mountain juniper should be included in the mix. This much seed will cost about \$475, retail; bulk discounts can probably be obtained. Inclusion of other species will affect total pounds of seed needed and as a result, the cost.

Note: juniper seeds are heavy; it takes more pounds of seeds and the seeds are expensive. Conifers tend to have lighter seeds, so it takes fewer pounds. Conceivably, we might get the seed price down to around \$350.

This practice is eligible for cost-sharing. The next batch-date is August 15th. If you have your application in, and if funds are available (a big IF), you might get cost-sharing for it, this year.

Without adequate site preparation, I expect seedling losses to be high. Ideally, I would prefer to wait and install this practice in 1994, using money allocated next January. However, if we do this, you will miss the deadline for the 1994 Forest Agriculture (Tax) Program.

IMPLEMENTATION SCHEDULE and RECORD

RECOMMENDED PRACTICES, YEAR IMPLEMENTED, UNITS COMPLETED

1993: Seed the Forest Agriculture (burned) stand. This is being done more to qualify you for Forest Agriculture than for any serious hope that the seeding will take; although, a few seeds always do. You should check with the County Assessor's office to see how much one year's taxes will be under Forest Agriculture. Compare this with the amount it will cost under its current classification. If the difference is enough to pay for the seeding, do it; otherwise, wait until 1994 and do it under cost-sharing.

1994: 1A. If the Forest Agriculture site was seeded in 1993: Conduct a survival count. If survival is high enough, this is the only activity needed. If it is not, prepare for seeding with site prep in 1995.

1B. If the Forest Agriculture site was not seeded in 1993: Use chemical site prep to kill off grass and weeds from 3.5 acres of the site (Use Roundup; do this in June.) In the fall, with about three inches of snow on the site, seed with 3½ pounds of ponderosa pine seed.

Note: This practice can be cost-shared, but 3.5 acres will not give you the acreage needed for Forest Agriculture status. To do that under cost-sharing, you need to prep and seed 32.3 acres. This will produce the greatest short-run cost and the greatest long-run savings. To do this, applications need to be filed by December 31, 1993.

If you decide to restock just 3.5 acres per year you will not qualify for Forest Agriculture until 2003. If you restock more than that, you will qualify sooner.

1995 - 2003:

PLAN A: 3.5 acres per year:

Each year site prep and reseed another 3.5 acres of the Forest Agriculture area. Do this under cost-sharing.

Each year, do a seedling cruise of the site seeded two years before to check success and whether another seeding is needed. Do seedling cruises at two-year intervals on each year's site until a new stand is successfully established.

Cost-sharing may be used up to four times on any one site. If stands have not been successfully established after the fourth try (in 2000), it will be necessary to start a planting program in 2002.

Note: CSFS has little experience with direct seeding. One site was seeded last fall, and two more are scheduled for this fall. We should have some idea of success before you seed your area.

PLAN B: If the 1993 seeding takes, there is nothing to do, except watch the trees grow. If it does not take, or only partially takes, nonstocked areas in the Forest Agriculture area, up to 32.3 acres, need to be reseeded every other (odd numbered) year until the area is restocked. If, after the fourth try (in 1999), success is not achieved, a planting program will be needed. This will start in 2001.

This program is eligible for cost-sharing. Again, there is no guarantee of obtaining these funds, but if available, they will certainly help with costs.

Note: As I do not know which program you prefer, PLAN A which treats a little bit each year minimizing cost in any one year at the expense of tax benefits, or PLAN B which treats the entire Forest Agriculture area to take advantage of tax benefits, but costs more in the early years, I am unable to be specific at this time (If you can afford the initial outlay, PLAN B makes the best financial sense.). This plan needs to be revised once these details are known.

If you elect to use cost-sharing, at least one wildlife treatment is required. A tenth-acre shrub thicket is the easiest and cheapest way to accomplish this. A deer fence or other means of discouraging deer will be needed. A planting/site plan will be needed at the time cost-sharing is applied for.

Also, stabilization work will be required where Black Tiger Creek crosses your property. The cost-sharing program puts some serious limits on how much can be spent (Only "natural" materials may be used, no major earth-moving or construction projects are allowed unless critical to the success of planting projects, etc.).

Planting schedules will be worked out when and if needed.

2003: Update this plan. Both programs require that the operating plan be revised and updated at least once in each ten years. A five-year revision is strongly recommended.

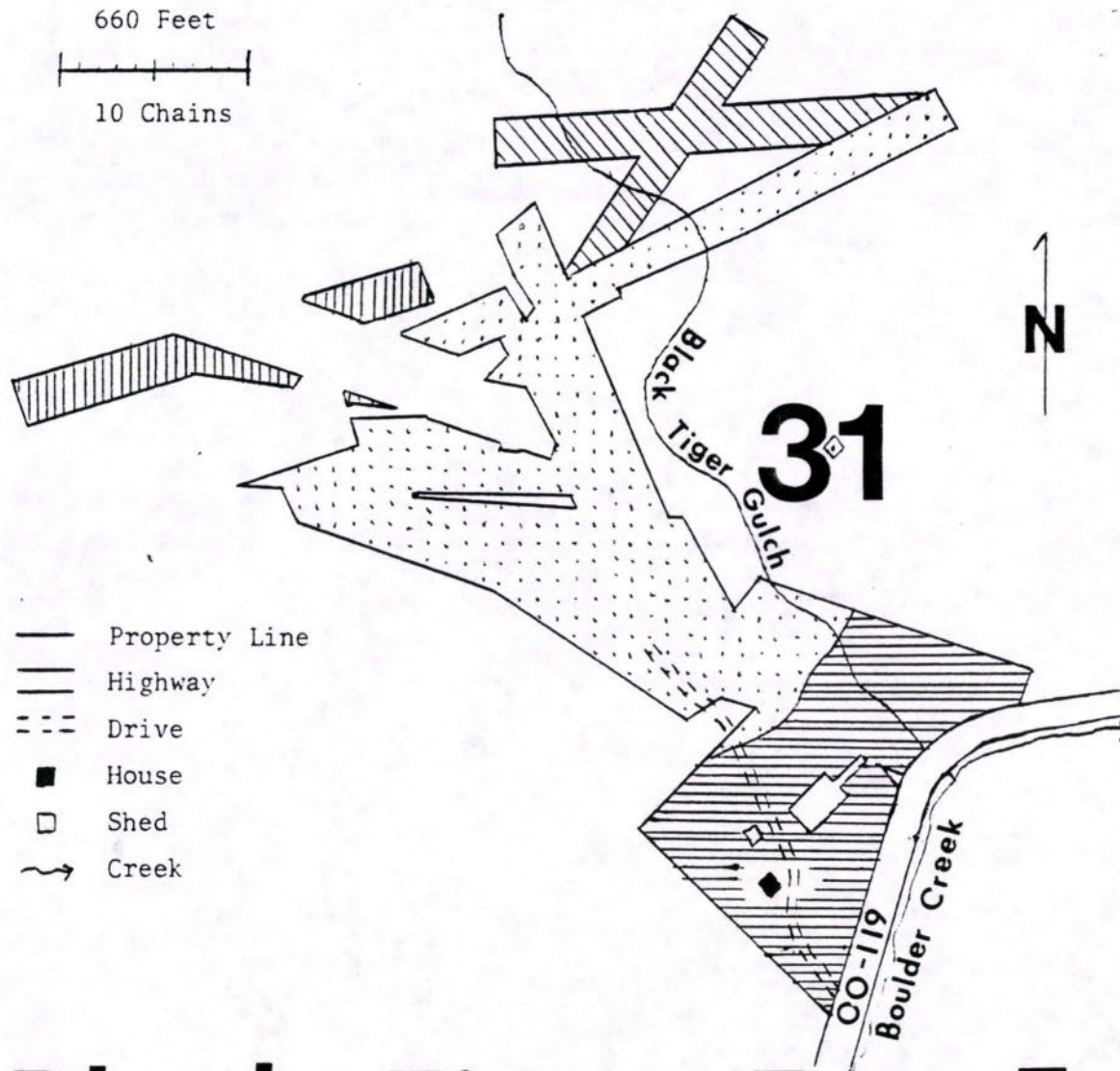
RECORDS and MAPS; TREATMENTS, DATES COMPLETED, VOLUME HARVESTED;
PRICE RECEIVED, MANAGEMENT COSTS

The following section is expandable and meant to serve as a log
of forest management work being done on Eldorado Canyon State
Park.

RECORDS and MAPS; TREATMENTS, DATES COMPLETED, VOLUME HARVESTED;
PRICE RECEIVED, MANAGEMENT COSTS (Continued).

HAROLD HEAFER

Section 31, Township 1 North, Range 71 West, Sixth Principle Meridian



Black Tiger Tree Farm

- | | |
|------------------|------------------------------------|
| Unpatented | Forest Agriculture Land (Burned) |
| Stewardship Land | Forest Agriculture Land (Unburned) |

Drawn By:

Douglas J. Stevenson

June 26, 1993

1993 and 1994 ANNUAL WORK PLANS

1993: IF YOU WISH TO ENROLL IN THE 1994 FOREST AGRICULTURE PROGRAM, YOU MUST OWN 40.0 ACRES OF FOREST LAND STOCKED WITH AT LEAST 325 TREES PER ACRE (SEEDLINGS COUNT.). AT THE MOMENT YOU OWN 17.7 ACRES. YOU NEED ANOTHER 22.3 ACRES.

SEEDING THIS ACREAGE WITH PONDEROSA PINE SEEDS STRETCHES THE DEFINITION, BUT IF YOU DO IT, I WILL APPROVE YOUR INSPECTION REQUEST AND ENROLL YOU IN THE PROGRAM.

STEWARDSHIP INCENTIVES COST-SHARING WILL NOT APPLY TO THIS PRACTICE. BY THE TIME YOU CAN APPLY AND BE CONSIDERED, IT WILL BE TOO LATE TO COMPLETE THE CHEMICAL SITE PREPARATION, A REQUIRED COMPONENT (THIS MUST BE DONE IN EARLY SUMMER.).

SEED SHOULD BE APPLIED ON TWO OR THREE INCHES OF FALL SNOW IN OCTOBER OR NOVEMBER AT THE RATE OF 13,000 PER ACRE, PURE LIVE SEED. DOUGLAS-FIR MAY BE SUBSTITUTED FOR UP TO 25% OF THE PONDEROSA PINE ON NORTH-FACING SLOPES. ROCKY MOUNTAIN JUNIPER MAY BE SUBSTITUTED FOR UP TO 50% OF PONDEROSA PINE ON DRY, ROCKY HILLTOPS. ALL SUBSTITUTIONS ARE AT THE RATE OF 13,000 PURE LIVE SEEDS PER ACRE.

IF YOU CHOOSE NOT TO PARTICIPATE IN THE 1994 FOREST AGRICULTURE PROGRAM, NO ACTION IS REQUIRED IN 1993.

1994

IF YOU CONDUCTED THE SEEDING IN 1993: NO ACTION IS REQUIRED IN 1994.

THERE ARE SEVERAL PRACTICES THAT NEED TO BE CONSIDERED IN 1994. THESE INCLUDE A SEEDING (IF NONE WAS DONE IN 1993), STREAMBANK STABILIZATION AND A WILDLIFE THICKET. WHICH, IF ANY, OF THESE WILL BE REQUIRED WILL DEPEND ON WHETHER YOU USE COST-SHARING. THE IMPORTANT POINT IS THAT WE AGREE ON A COURSE OF ACTION AND TIME TABLE FOR COMPLETING THE WORK. THESE PRACTICES ARE ELIGIBLE FOR COST-SHARING.