

FOREST STEWARDSHIP PLAN

For:

HAPPY THOUGHT TREE FARM

Tom Stevens
5695 Sunshine Canyon Road
Boulder, CO 80302

Part of the NW1/4 NE1/4, Sec 17, T1N, R71W, S.P.M.
and
Part of the NE1/4 NW1/4, Sec 17, T1N, R71W, S.P.M.

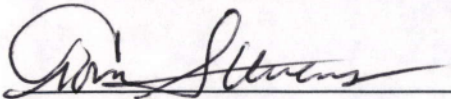
Consisting of parts of the
Gardner (M.S. #556),
Kid (M.S. #5767),
Zanesville (M.S. #14583),
Happy Thought (M.S. #14583)
and portions of four other mine claims.

Prepared By:

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March 3, 1993

This management plan has been prepared at my request to guide my Stewardship management activities which I voluntarily apply on my property. I believe that activities recommended in this plan are appropriate to meet my objectives and will benefit the natural resources on my property. I intend to apply the recommended practices and to maintain them for a period of at least ten years, thus helping me to be a good steward of the forest and associated resources entrusted to me on my property.


Tom Stevens

3-10-93
Date

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OBJECTIVES: The forestry objectives for this property are:

1. Consistent with requirements of the Stewardship Incentives Program, to improve the 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.
3. Preserve the aesthetic qualities of the area.
4. Protect the soil and water resources of the property.

AREA: The property contains 12.4 acres, of which 10.3 acres are forested. There is one stand:

	10.3 acres	Ponderosa pine/Douglas-fir
House/Yard	<u>2.1</u> acres	
	12.4 acres	STEWARDSHIP ACRES

PROPERTY LOCATION: Happy Thought Tree Farm is located on the south side of Sunshine Canyon Road about 5.7 miles west of the Boulder City Limit.

BOUNDARY MONUMENTS: No attempt was made to locate boundary monuments; however, county records show 23 corners marked by capped rebars and 10 corners unmarked.

Marked corners are:

1. The eastern-most corner along the county road right-of-way.
- 2., 3. and 4.: The next three corners along the south side of the property, moving away from the road,
5. Gardner Corner #1,
6. Gardner Corner #2,
7. Emancipation Corner #1,
8. Emancipation Corner #4,
9. Dana Corner #5,
10. Dana Corner #4,
11. Gardner Corner #3,
12. Gardner Corner #4,
13. Happy Thought Corner #4,
14. Happy Thought Corner #5,
15. Fortune #2 Corner #2,

16. Zanesville Corner #6,
17. Zanesville Corner #1,
18. Zanesville Corner #2 and Happy Thought Corner #9 (marked by same stake),
19. Happy Thought Corner #1,
20. Kid Corner #1,
21. Kid Corner #2,
22. and 23. the second and third corners from the county road on the north side of the property.

There are no fences or other indicators of property lines.

ACCESS: Access is by way of a steep, deteriorated drive from Sunshine Canyon Road. Most of the property is extremely steep and poses difficult problems for commercial access. Neighboring properties are also steep and unable to furnish access.

TOPOGRAPHY: The property is on a hillside, extending from Sweet Home Gulch on the southwest, over the northwest flank of Emancipation Hill to the top of the ridge. Elevation ranges from about 6760 feet above sea level at the bottom of Sweet Home Gulch to about 7280 feet above sea level on the flank of Emancipation Hill. Aspects are mostly southwest. Slopes are mostly 60% and greater.

GEOLOGY: Precambrian rocks about 1.8 billion years old were intruded about 1.7 billion years ago by the Boulder Creek Granodiorite Formation. These are the bedrock throughout the property.

North-northwest trending faults of Precambrian Age pass near the property, but do not cross it. These faults have 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 reactivation 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 the Ancestral Front Range was eroded to a set of low hills.

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

In the Late Cretaceous-Early Tertiary (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 relief was never great, much less than at present. By the Late Eocene 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 east during the Paleocene, creating the Valmont Dike and some other basaltic formations in the eastern part of the county, but the activity did not involve this property.

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.

This property has never been glaciated (The nearest glacier reached Nederland.). During the Pleistocene, the area alternated between spruce-fir and ponderosa pine forest, similar to today's forest. For the last 11,000-15,000 years, ponderosa pine has been the predominant species.

SOILS: Soil maps for the western part of Boulder County have not been published; Soil Conservation Service agronomists are in the process of doing this at this time.

Juget soils occur on south-facing slopes. They are dry, with only a few inches to rock. They retain water poorly and have many problems from a tree-growing standpoint. Most of the property is on Juget soil types.

HISTORICAL LAND USE: Boulder County was burned in massive fires about 1760 and 1853. The Boulder Canyon fire of 1889 burned most of the area west of Boulder. Evidence of these fires was removed from this property in the 1880s and 1890s when nearly every tree in sight was cut for firewood to fuel hoists and stamping mills. A fire history of the Sunshine drainage indicates fires within it at about two-year intervals from 1860 to 1920 when fire control started to become effective.

Active mining of the Emancipation Mine and cutting of timber for

timbers and firewood has been the only real use this property has had.

DESIRED CONDITION: Healthy, vigorous, fully-stocked stands of trees are required by the Stewardship Program. This condition need not be achieved immediately, but progress must be made in this direction.

IMPACT ON NEIGHBORS & NEARBY COMMUNITIES: Dwarf-mistletoe control is the only cutting anticipated during the life of this plan (1993-2003). This will be easily visible to your neighbor on the west, but other owners in the area will have to know where to look to see that anything is being done. There is sufficient Douglas-fir to mask most visual impacts of dwarf-mistletoe control cutting.

LOCAL MARKETS: Firewood markets are weaker than they were ten years ago, but are still readily able to handle any sales conducted under this plan (if any). Access is a bigger problem than markets.

WETLAND AREAS: There are no wetlands on this property.

WILDLIFE: During the course of field work, the only evidence of wildlife observed were woodpecker nesting holes and deer tracks on the drive.

Obviously, many other species use the property, but none were observed during field work.

Threatened or Endangered Species: The property is located in Block C4 (Fort Collins). Protected species in this block are:

1. the American peregrine falcon,
2. the bald eagle,
3. the interior least tern,
4. the greenback cutthroat trout,
5. the piping plover and
6. the whooping crane.

For the most part, these species do not make use of the area. The tern, plover and whooping crane are shore birds and prefer large lakes and rivers and Sweet Home Gulch is not large enough to support fish.

Eagles visit Boulder in winter, staying in the piedmont area with its milder weather and migrating north when weather improves. Boulder is on the extreme southern end of the eagle's summer (nesting) range. Occasionally a pair will nest in the area, but it is very unusual.

Peregrine falcons may use the property in hunting, but there are no nesting sites on the property (There are no cliffs.).

Wildlife Habitat Opportunities: There are two practices that can enhance the property's usefulness to wildlife. They are:

1. Good nesting snags occur with a frequency of about one per acre. Depending on which expert one reads, the optimum is between 2.3 and 7.0 snags per acre. About 60% of available woodpecker and cavity-nesting bird habitat is not being used due to a "housing shortage" in these stands. There are 10.3 acres in this stand. Adding 2.3 snags per acre would require girdling about 24 trees. These should be located in a more-or-less square grid at intervals of 115 feet (In practice, the specified interval is laid out, then the technician searches the immediate vicinity for a suitable tree, being careful not to go more than half the interval [about 58 feet] from the grid point. If no suitable tree is found within this area, or if a suitable snag already exists, he goes on to the next point; otherwise, he selects and girdles a tree, then resumes his course.). The practice is cost-sharable.
2. Slash resulting from cutting could be piled in specially designed shelter piles, or "bunny huts," for small animals. These are built with larger pieces near the bottom and smaller ones on top to prevent crushing by snow. Small slash from cutting can be cleaned up this way, though that is not the actual purpose. The practice is cost-sharable.
3. The "housing shortage" for cavity-nesting birds can be partially solved for western bluebirds by placing nesting boxes in lieu of girdling trees. It will take only two boxes to treat the entire property. The practice can be cost-shared, but will only pay a maximum of \$20.00 per box. It is a fast and easy way to meet the wildlife habitat requirement.

In order to meet Stewardship requirements, at least one wildlife practice must be implemented. Besides those above, there are hundreds of other practices that might be applied, depending on which animal you decide to manage for.

INVENTORY: The entire property is in the ponderosa pine/Douglas-fir/Arizona fescue ecotype. The mix of species represents one seral stages within this type.

Your forest (10.3 acres) is a ponderosa pine, large pole stand with associated Douglas-fir. It is heavily-stocked.

The ponderosa pine are heavily infected with dwarf-mistletoe and in parts of the stand, dwarf-mistletoe-caused mortality is already wiping out the pine component. Treatment is needed.

Access is a major problem and limits what can be done commercially.

Standard silvicultural practice is to reduce the dwarf-mistletoe infection with a combination of thinning and pruning. Slash can be used for animal shelter. The combination can be cost-shared.

SILVICULTURAL OBJECTIVES: Sustained yield is ruled out by the difficult access and small size of the property. The objective is to eradicate dwarf-mistletoe and use the resulting slash for wildlife shelter piles. No further activities are anticipated for the duration of this plan.

IMPLEMENTATION SCHEDULE:

1993: Apply for dwarf-mistletoe cost-sharing (Practice: SIP-3; Component: Woodland Improvement; Technical Code 666; Area: up to 10.3 acres). It might be a good idea not to try the entire property all at once; this is a lot of work. You might also hire the work done; SIP will reimburse labor, as well, including your own labor. This practice pays 65% of actual cost, up to \$200.00 per acre.

At the same time, apply for the same number of acres of (Practice: SIP-8; Component: Wildlife Upland Habitat Management; Technical Code 645). This is the "bunny house" project. It pays 65% of cost, up to \$410.00 per acre. Remember that the slash piles must remain in place for ten years to meet the "maintain the practice" requirement.

Applications are filed with the Agricultural Stabilization and Conservation Service (ASCS) in Longmont at 9595 Nelson Road (the Fairgrounds). Funds are currently exhausted, but occasionally money is turned back from projects that weren't completed, or didn't use the entire allocation. Expect to be funded in January, 1994.

1994:

1. Carry out dwarf-mistletoe treatment and wildlife treatment on about half of property.
2. Apply for 1995 cost-sharing.

1995:

1. Prune dwarf-mistletoe from area treated in 1994. Multiple treatments are needed because dwarf-mistletoe has an incipient stage where it is present in the tree, but not sending out aerial shoots. It takes about three years for these incipient infections to become visible. The second, third and fourth treatments are cost-sharable under SIP-3; Woodland Pruning; Technical Code 660 and can be reimbursed at 65% of actual cost up to \$47.00 per acre. Later treatments consist mostly of examining each tree very carefully and pruning out the few infections that are found.
2. Treat remainder of stand using same practices as used in 1994.

1996:

1. Prune dwarf-mistletoe from 1994 cutting unit (This is the second pruning under cost-sharing.).
2. Prune dwarf-mistletoe from 1995 cutting unit (This is the first pruning under cost-sharing.).

1997:

1. Prune dwarf-mistletoe from 1994 cutting unit (This is the third and last pruning under cost-sharing.).
2. Prune dwarf-mistletoe from 1995 cutting unit (This is the second pruning under cost-sharing.).

1998: Prune dwarf-mistletoe from 1995 cutting unit (This is the third and last pruning under cost-sharing.

1999: Complete Defensible Space practice around house. This is a fire-safety project, involving thinning trees so that fire can't spread from tree-to-tree to reach the building, pruning low limbs so that fire can't climb into the tree crowns, cleaning up accumulations of burnable debris, enclosing open decks and cleaning out gutters and troughs so that firebrands can't land in accumulations of needles, etc.

2000 - 2002: No activities planned.

2003: Have this plan updated. Trees grow and programs come and go. You should keep up on what is happening that might benefit your land.

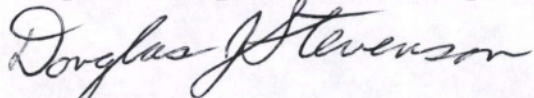
SUMMARY OF OBJECTIVES:

1. Control dwarf-mistletoe.
2. Clean up slash and use as wildlife shelter piles.
3. If practical, salvage some firewood, preferably for own use.

For many years to come, you can enjoy your forest home. With people like you taking care of our forests, their well-being is assured.

Thank you.

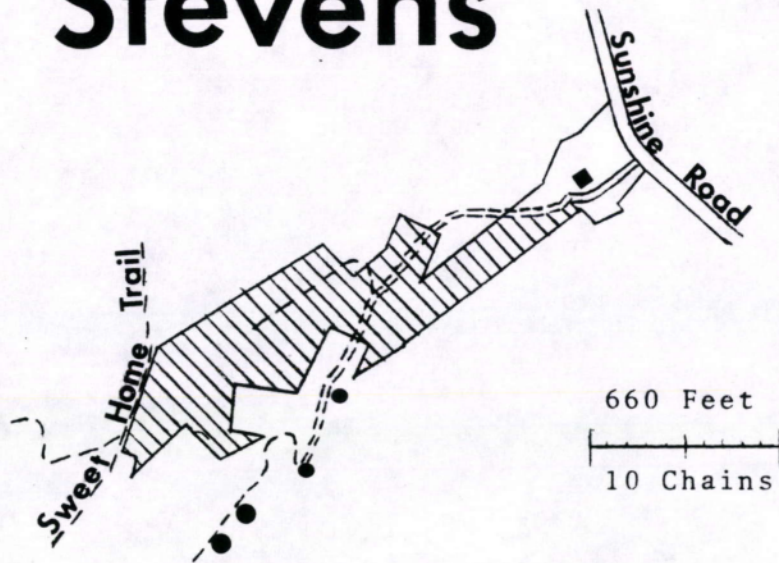
Respectfully submitted by,



Douglas J. Stevenson
Asst. District Forester

Happy Thought Tree Farm

Tom Stevens



NW1/4 NE1/4, Sec 17, T1N, R71W, S.P.M.
NE1/4 NW1/4, Sec 17, T1N, R71W, S.P.M.

- Property Line
- == Road, Improved
- Road, Unimproved
- Trail
- House
- Mine
- ▨ Forest

Drawn By:

Douglas Stevenson

March 1, 1993