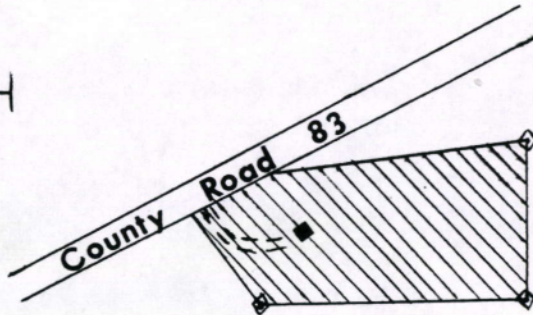


Dan Rogers

330 Feet
5 Chains



NW1/4 NE1/4, Sec 8, T1N, R71W, S.P.M.

- ◆ Known Corner
- Property Line
- == Road
- == Drive
- House
- ▨ Forest

Drawn By:

Douglas Stevenson

March 17, 1993

FOREST STEWARDSHIP PLAN

For:

Dan and Linda Rogers
1350 County Road 83
Boulder, CO 80302

Part of the NW1/4 NE1/4, Sec 8, T1N, R71W, S.P.M.

Prepared By:

Douglas J. Stevenson
Colorado State Forest Service
936 Lefthand Canyon
Boulder, CO 80302
(303) 442-0428

March 17, 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.

Dan Rogers

Date

TABLE OF CONTENTS:

Subject	Page
FOREST STEWARDSHIP and FOREST AGRICULTURE MANAGEMENT PLAN	1
TABLE OF CONTENTS	2
OBJECTIVES	3
AREA	3
PROPERTY LOCATION	3
BOUNDARY MONUMENTS	3
ACCESS	3
TOPOGRAPHY	3
GEOLOGY	4
SOILS	5
HISTORICAL LAND USE	5
DESIRED CONDITION	5
IMPACT ON NEIGHBORS AND NEARBY COMMUNITIES	5
LOCAL MARKETS	6
WETLAND AREAS	6
WILDLIFE	
Threatened and Endangered Species	6
Wildlife Habitat Opportunities	6
INVENTORY	7
SILVICULTURAL OBJECTIVES	7
IMPLEMENTATION SCHEDULE	7
SUMMARY OF OBJECTIVES	9
MAP	10

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 3.0 acres, all of it lightly forested. There is one stand:

1.9 acres	Ponderosa pine/Douglas-fir
<u>1.0</u> acres	House/Yard
2.9 acres	STEWARDSHIP ACRES
<u>0.1</u> acres	Road Right-of-Way
3.0 acres	TOTAL ACRES

PROPERTY LOCATION: This property is located on the east side of County Road 83, about 0.3 miles above the switchback.

BOUNDARY MONUMENTS: The northeast and southeast corners are marked by wooden laths; the southeast corner also has an iron rebar. There is no fence; the northwest property line is the road.

ACCESS: Access is by way of County Road 83 and the driveway.

TOPOGRAPHY: The property is on a southeast spur of Butzel Hill. Elevation ranges from about 7400 feet above sea level along the southeast side to about 7480 feet above sea level along the north property line. Slopes are mostly 15-30%, mostly with southeast aspects.

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 so 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. 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 is absent on this property, as nearly everything in sight that would make firewood was cut to supply steam for mining. Fires are believed to have affected the Sunshine watershed at about two-year intervals from 1860 to 1920 when fire control started to become effective.

Most of the property is affected by a dwarf-mistletoe patch that began on the rocky knob as a new infection center about 1850. The patch continues to increase its area slowly, infecting young trees along the southeast edge of the property. In a small area on the north side of the knob, ponderosa pine has been replaced by Douglas-fir as a result of dwarf-mistletoe. On the southwest side, mountain pine beetles wiped out weakened trees in the late 1970s.

Location high on a ridge has limited grazing activity, which was never great in this immediate area, anyway.

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 concentrated along the east property line and will consist mostly of pruning. It should not be a problem for your neighbors. Most slash will be used in building animal shelter piles.

LOCAL MARKETS: No commercial sales are planned. The only harvesting will consist of a dozen or so trees harvested for home-use.

WETLAND AREAS: There are no wetlands on this property.

WILDLIFE: Three female mule deer were observed during the course of field work. Obviously, many other species use the property, as well.

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, crane and plover are shore birds and prefer large lakes and rivers and you have no stream for trout.

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. 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 (65% up to \$410 per acre.

2. The "housing shortage" for cavity-nesting birds can be partially solved for western bluebirds by placing one or two nesting boxes at opposite ends of the property. It will take only three 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 stage within this type.

Your forest (1.9 acres) is a ponderosa pine, sapling stand with a few sawlog trees. It is lightly-stocked. The pines in the northeastern two-thirds of the property are heavily infected with dwarf-mistletoe and in parts of the stand, dwarf-mistletoe-caused mortality is already wiping out the trees. Treatment is needed.

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 small size of the property. The objective is to eradicate dwarf-mistletoe and use the resulting slash for wildlife shelter piles. A Defensible Space practice to reduce fire hazard around the house is a possibility. No further activities are anticipated for the duration of this plan.

IMPLEMENTATION SCHEDULE:

1993:

1. Harvest ponderosa pines heavily-infected with dwarf-mistletoe. CSFS will mark these, and at the same time, mark trees in need of pruning.
2. Apply for dwarf-mistletoe cost-sharing (Practice: SIP-3; Component: Woodland Improvement; Technical Code 666; Area: 5.0 acres). You can do the work yourself and

pocket the money, or you can hire it done. SIP will reimburse labor, including your own labor. This practice pays 65% of actual cost, up to \$200.00 per acre.

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: Carry out dwarf-mistletoe treatment (First-time treatment under 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. Reforest open areas by planting. This is also cost-sharable. I recommend 360 ponderosa pines and 120 Douglas-firs per acre. Both will need protection from grass competition. Douglas-fir will need weather protection. Avoid planting ponderosas within 50 feet of an infected pine.

1996:

1. Prune dwarf-mistletoe from 1994 cutting unit (This is the second pruning under cost-sharing.).
2. Replace failed seedlings if survival rate has dropped below 75%; otherwise, no action is needed. Replacement plantings can be cost-shared up to three times. Usually, only one replacement is needed; it is best to hold the others in reserve in case of disaster.

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:

1. Prune dwarf-mistletoe from 1995 cutting unit (This is the third and last pruning under cost-sharing.).
2. Implement wildlife habitat practice (shrub thicket, nesting boxes, etc., if not already completed).

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. Salvage firewood 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.

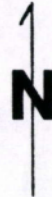
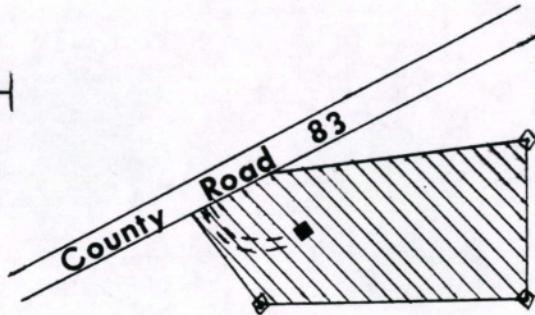
Thank you.

Respectfully submitted by,

Douglas J. Stevenson
Assistant District Forester

Dan Rogers

330 Feet
5 Chains



NW1/4 NE1/4, Sec 8, T1N, R71W, S.P.M.

- ◆ Known Corner
- Property Line
- == Road
- == Drive
- House
- ▨ Forest

Drawn By:

Douglas Stevenson

March 17, 1993