

STEWARDSHIP INCENTIVES PLAN

For:

Elmina "Bunny" Spangler  
Box 406  
Pinecliffe, CO 80471

S1/2 NE1/4 SW1/4, Sec 14, T1S, R72W, S.P.M.,

Prepared By:

Douglas J. Stevenson  
Colorado State Forest Service  
936 Lefthand Canyon  
Boulder, CO 80302  
(303) 442-0428 (O)  
(303) 448-1283 (F)

March 5, 1999

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.

---

Elmina "Bunny" Spangler

---

Date

## TABLE OF CONTENTS

Subject	Page
STEWARDSHIP INCENTIVES PLAN .....	1
TABLE OF CONTENTS .....	2
OBJECTIVES .....	3
AREA .....	3
PROPERTY LOCATION .....	3
ACCESS .....	3
TOPOGRAPHY .....	3
GEOLOGY .....	3
SOILS .....	4
Fern Cliff Series .....	4
Juget Series .....	7
HISTORICAL LAND USE .....	8
DESIRED CONDITION .....	9
IMPACT ON NEIGHBORS AND NEARBY COMMUNITIES .....	9
LOCAL MARKETS .....	9
WETLAND AREAS .....	9
WILDLIFE .....	9
Threatened and Endangered Species .....	9
Wildlife Habitat Opportunities .....	11
INVENTORY .....	12
SILVICULTURAL OBJECTIVES .....	13
IMPLEMENTATION SCHEDULE .....	13
SUMMARY .....	16
MAP .....	17
BLUE SPRUCE .....	18
DOUGLAS-FIR .....	19
ENGELMANN SPRUCE .....	21
LIMBER PINE .....	22
LODGEPOLE PINE .....	23
PONDEROSA PINE .....	25
DWARF-MISTLETOE .....	29
DWARF-MISTLETOE ADDENDUM .....	31
VOLUME IN CORDS .....	32
SILVICULTURE TERMINOLOGY .....	34

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. Follow principles of sustained yield forestry and multiple use management, giving particular attention to production of forest products and enhancement of wildlife habitat.
3. Preserve the aesthetic qualities of the property.
4. Protect the soil and water resources of the property.

AREA: The property contains 19.5 acres, all of which may be considered forested:

Forest	11.4 acres	Ponderosa pine/Douglas-fir, heavy stocking
	<u>8.1</u> acres	Ponderosa pine, medium stocking
	19.5 acres	Stewardship Incentives acres

PROPERTY LOCATION: The property is located about 0.2 miles west of County Road 68, about 1.5 miles south of Magnolia Road.

ACCESS: The property is accessible by a driveway from County Road 68. This is the only feasible access.

TOPOGRAPHY: The property occupies a low ridge north of Forsythe Creek. Elevation ranges from about 7820 feet above sea level at the southeast corner to about 7930 feet on top of the ridge west of the house. Aspect in Stand A is north with slopes up to 65%; in Stand B it is south with slopes of about 30%.

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 the bedrock throughout the property.

North-northwest trending faults of Precambrian Age pass east and west of the property. These and other similar faults in the area, have occasionally been reactivated.

Lower Paleozoic rocks (Cambrian through Mississippian) are missing in this area. It is thought 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 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 east during the Paleocene, but apparently 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.

Though this property was never glaciated (The nearest glacier reached Tungsten, just below Barker Dam.), sediments eroding from it contributed to the sand and gravel deposits along Boulder Creek. Apparently, there is a connection between glacial advances and the creation of piedmont gravel fans.

SOILS: Fern Cliff Soil Series<sup>1</sup>

The Fern Cliff series is made up of deep, well-drained soils. These soils formed in loamy mixed alluvium on short fans and

---

<sup>1</sup>Moreland, Donald E. and Moreland, Ronald C., Soil Survey of Boulder County Area, Colorado, USDA - Soil Conservation Service, Denver, 1975.

valley side slopes in the mountain area. Slopes are 15 to 60 percent. Elevations are 6,300 to 8,200 feet. The native vegetation is mainly a forest of ponderosa pine and Douglas-fir with a sparse understory of grass. Annual precipitation is 18 to 24 inches. Mean annual air temperature is 43° to 47° F., and the frost-free season is about 80 to 120 days.

In a representative profile the surface layer is dark grayish-brown stony sandy loam about 3 inches thick. The subsurface layer, about 17 inches thick, is light-gray stony sandy loam. The upper part of the subsoil, about 9 inches thick, is light-gray and yellowish-brown stony sandy loam and sandy clay loam. The sandy clay loam is in thin layers and bands in the sandy loam. The lower part of the subsoil is light brownish-gray and yellowish-brown stony sandy clay loam and sandy loam about 31 inches thick. Below this is light yellowish-brown sandy loam that contains many stones.

Fern Cliff soils have moderate to moderately rapid permeability. Available water capacity for the profile is moderate. Roots can penetrate to a depth of 60 inches or more. Moderate amounts of stone are on the surface and throughout the profile.

Reaction in the upper part of the surface layer is slightly acid, and in the subsurface layer it is medium acid. In the subsoil and substratum it is slightly acid.

These soils are used for pasture, for recreation and forestry, and for homesites.

Typical profile for Fern Cliff stony sandy loam in Fern Cliff-Allens Park-Rock outcrop complex, 15 to 60 percent slopes, located 1,400 feet south and 2,400 feet west of the northeast corner of sec.5, T. 1 N., R. 71 W.:

- O1 - 4 inches to 2, undecomposed organic material, chiefly needles, bark and twigs.
- O2 - 2 inches to 0, partially decomposed organic matter like that of the horizon above.
- A1 - 0 to 3 inches, dark grayish-brown (10YR 4/2) stony sandy loam, very dark brown (10YR 2/2) when moist; strong, fine, crumb structure; soft, very friable; 15 to 20 percent stone; slightly acid; clear, smooth boundary.
- A2 - 3 to 20 inches, light-gray (10YR 7/2) sandy loam, grayish brown (10YR 5/2) when moist; weak, fine, platy structure that parts to moderate fine granular; soft, very friable; 15 to 20 percent stone; medium acid; gradual, wavy boundary.
- A&B - 20 to 29 inches, light-gray (10YR 7/2) stony heavy sandy loam, grayish brown (10YR 5/2) when moist; weak, fine, subangular blocky structure; horizon contains

thin, discontinuous, yellowish-brown (10YR 5/4) sandy clay loam lamellae and seams that are dark yellowish brown (10YR 4/4) when moist; in some places a soft matrix and very hard lamellae, and in other places a very friable matrix and friable lamellae; thin, nearly continuous clay films on ped faces in lamellae; 20 percent of soil horizon is stone; horizon is slightly acid; diffuse, wavy boundary.

- B&A - 29 to 60 inches, yellowish-brown (10YR 5/4) stony clay loam in ½- to 2-inch thick discontinuous lamellae; these lamellae are dark yellowish brown (10YR 4/4) when moist, and interspersed between them is light brownish-gray (10YR 4/2) heavy sandy loam material like that of the horizon above; dark grayish brown (10YR 4/2) when moist; lamellae have moderate, medium, subangular blocky structure, and interspersed material is massive; lamellae are very hard and friable and interspersed material is slightly hard and very friable; lamellae have thin, continuous clay films on ped faces; this horizon is 20 percent stone; slightly acid; gradual, wavy boundary.
- C - 60 to 80 inches, light yellowish-brown (2.5Y 6/3) very stony sandy loam, light olive brown (2.5Y 5/3) when moist; massive; slightly hard, very friable; 60 percent stone; slightly acid.

The A1 horizon ranges from 0 to 4 inches in thickness, and in some places it is absent. The A2 horizon ranges from loamy sand to sandy loam in texture. Content of coarse fragments ranges from 5 to 35 percent throughout the solum, but reaches as high as 60 or 70 percent in the C horizon. Depth to bedrock is 60 inches or more.

Fern Cliff-Allens Park-Rock outcrop complex, 15 to 60 percent slopes (FcF). - This complex is made up of about 30 percent Fern Cliff stony sandy loam, about 30 percent Allens Park gravelly sandy loam, and about 20 percent Rock outcrop. ....

Fern Cliff soils are on mountain slopes and short fans. Allens Park soils are on ridges and side slopes, and on saddles between the ridges. Rock outcrop is throughout the Area, but mainly on ridges.

Included with this complex in mapping are minor areas of Fern Cliff stony loamy sand, Juget soils, Peyton soils, and narrow bands of alluvial soils along drainageways. These included soils make up about 20 percent of each mapped area.

Runoff is medium to rapid on areas of this complex. The erosion hazard is high.

All of the acreage of this complex is woodland. Timber cutting is somewhat limited by the steep slope and the slow growth of trees. Some areas are used for grazing. Many areas are now used as sites for cabins and homes, and for recreational uses and wildlife habitat. (Capability unit VIIe-1, nonirrigated; tree suitability group 1).

The north end of your property (Stand A) has Fern Cliff soils.

### Juget Soil Series<sup>2</sup>

The Juget series is made up of shallow, somewhat excessively drained soils. These soils formed on mountain slopes and ridges in sandy residuum weathered from granite. Slopes are 9 to 55 percent. Elevations are 6,300 to 8,200 feet. At lower elevations the native vegetation is mainly ponderosa pine, and at higher elevations it is Engelmann spruce and Douglas-fir with an understory of grass. Annual precipitation is 18 to 24 inches. Mean annual air temperature is 43° to 46° F., and the frost-free season is about 80 to 120 days.

In a representative profile the surface layer, about 6 inches thick, is dark-gray very gravelly sandy loam. The underlying material, about 5 inches thick, is brown very gravelly loamy sand. Underlying this layer is granite. Soil reaction is slightly acid.

Juget soils have rapid permeability. Available water capacity for the profile is low. Roots can penetrate to a depth of less than 20 inches.

These soils are used mainly for grazing, although some areas with scattered trees are used for recreation, forestry and homesites. The grass cover must be maintained to help prevent erosion.

Representative profile of Juget very gravelly sandy loam, in Jug-et-Rock outcrop complex, 9 to 55 percent slopes, located 2,540 feet north and 650 feet east of the southwest corner of sec. 11, T. 1 N., R. 71 W.:

- A1 - 0 to 6 inches, dark-gray (10YR 4/1) very gravelly sandy loam, black (10YR 2/1) when moist; weak, very fine, granular structure; soft, very friable; 60 percent gravel and stone; slightly acid; clear, smooth boundary.
- C - 6 to 11 inches, brown (10YR 5/3) very gravelly loamy

---

<sup>2</sup>Moreland, Donald E. and Moreland, Ronald C., Soil Survey of Boulder County Area, Colorado, USDA - Soil Conservation Service, Denver, 1975.

sand, dark grayish brown (10YR 4/2) when moist; massive; hard, friable; about 80 percent fine gravel; slightly acid; clear, wavy boundary.

R - 11 inches, hard granite bedrock.

The A1 horizon ranges from 4 to 8 inches in thickness and very gravelly sandy loam to very gravelly loamy sand in texture. Depth to bedrock ranges from 10 to 20 inches. The average rock fragment content of the soil ranges from 50 to 70 percent and is dominantly fine gravel.

Juget-Rock Outcrop Complex, 9 to 55 percent slopes (JrF). - This complex is made up of about 50 percent Juget very gravelly sandy loam and about 30 percent rock outcrop. .... The profile of the Juget soil in this complex is the one described as representative of the Juget series.

Included with this complex in mapping are small areas of Peyton soils near drainageways and a few small areas of Allens Park soils. These included soils make up about 20 percent of each mapped area.

Runoff is rapid on this complex. The erosion hazard is high. Juget soils take in water rapidly, but they retain only limited amounts for plant use because of their shallow depth to bedrock.

None of this complex is suitable for cultivation. It is in grass and scattered trees and shrubs. In the past, it was used for grazing livestock and for forestry, but now many areas are used for homesites, recreational purposes, and wildlife habitat. (Capability unit VIIIs-1, nonirrigated; tree suitability group 2)

The south end of your property (Stand B) has Juget soils.

**HISTORICAL LAND USE:** The area was surveyed between August 10, 1867 and August 27, 1868 by T. M. Field and F. F. Brune. An old wagon road, part of which is now your driveway, is shown on the Surveyor General's map of 1870. It's a pretty safe bet that this area was logged in the late 1870s and probably at least once since then.

Fire scars on nearby properties indicate a fire about 1853. According to local legend, Arapahos angered at being cheated by whites, burned most of Boulder County. (A more likely explanation is that settlers were extremely careless with fire and dozens of small fires left burning would coalesce during dry weather to go rolling off as a vast sea of flame.)

Located between two meadows, this property has seen a lot of grazing use as part of the Giggey Ranch.

DESIRED CONDITION: Healthy, vigorous, fully-stocked stands of trees are a goal of the Stewardship Incentives Program. This condition need not be achieved immediately, or even during the ten-year span of this plan, but progress should be made in this direction.

IMPACT ON NEIGHBORS & NEARBY COMMUNITIES: To the north and east, you are bounded by other lot owners like yourself. Some of them may be interested in controlling mountain pine beetles and dwarf-mistletoe, as well. Even if they're not, your activities should have little effect on them. Your neighbor to the south is the U. S. Forest Service; their land is steep and they're not likely to care what you do on your property. Your neighbor to the west is Joe Bacso, who is actively engaged in a campaign against dwarf-mistletoe. It would be easy to arrange a cooperative effort with him so that your properties don't reinfest each other after dwarf-mistletoe treatment (He is planning to start a new treatment area along your west line beginning this summer; this is an excellent opportunity to work together.).

LOCAL MARKETS: You have less than thirty cords of firewood that could be salvaged in a dwarf-mistletoe control effort. This will be done on a one-time-only basis. Firewood and product markets are largely irrelevant to your efforts.

WETLAND AREAS: There are no Federal wetlands on this property.

WILDLIFE: Though no wildlife was observed during the field exam, this is typical habitat for Abert squirrels, foxes, deer, songbirds and woodpeckers.

#### Threatened and Endangered

The U. S. Fish and Wildlife Service lists the following species for Boulder County:

American peregrine falcon, Falco peregrinus, Endangered  
Bald eagle, Haliaeetus leucocephalus, Endangered  
Whooping crane, Grus americana, Endangered  
Eskimo curlew, Numenius borealis, Endangered  
White-faced ibis, Plegadis chihi, Category 2  
Mountain plover, Charadrius montanus, Category 1  
Northern goshawk, Accipiter gentilis, Category 2  
Black tern, Chlidonias niger, Category 2

Mexican spotted owl, Strix occidentalis lucida, Threatened  
Loggerhead shrike, Lanius ludovicianus, Category 2  
Boreal toad, Bufo boreas boreas, Category 2  
Black-footed ferret, Mustela nigripes, Endangered  
Preble's meadow jumping mouse, Zapus hudsonius preblei,  
Category 2  
Fringed-tailed myotis, Myotis thysanodes pahasapensis,  
Category 2  
North American wolverine, Gulo gulo luscus, Category 2  
Swift fox, Vulpes velox, Category 2  
Greenback cutthroat trout, Oncorhynchus clarki stomias,  
Threatened  
Plains topminnow, Fundulus sciadicus, Category 2  
Rocky Mountain capshell, Acroloxus coloradensis, Category 2  
Regal fritillary butterfly, Speyeria idalia, Category 2  
Lost ethmiid moth, Ethmia monachella, Category 2

The following plants are also listed:

Bell's twinpod, Physaria bellii, Category 2  
Larimer aletes, Aletes humilis, Category 2  
Ute ladies'-tresses orchid, Spiranthes diluvialis,  
Threatened  
Colorado butterflyweed, Gaura neomexicana coloradensis,  
Category 1  
Showy prairie gentian, Eustoma graniflorum, Category 2  
Pale moonwort, Botrichium pallidum, Category 2  
Purple lady's slipper orchid, Cypripedium fasciculatum,  
Category 2

The peregrine falcon and bald eagle have been observed in Boulder County numerous times since 1987. The white-faced ibis has observed just across the county line at Continental Pond in Weld County in the fall of 1994.

The purple lady's slipper has been observed several times since 1987.

The Mexican spotted owl occurred in Boulder County historically, but has not been seen here since the Threatened and Endangered Species Act was passed in 1973. The nearest known nest is located south of Denver in Douglas County. A detailed search of Coal Creek, Boulder and Lefthand canyons and their tributaries in 1995 failed to turn up anything.

The northern goshawk is favored by the many age classes of trees created by rotational cutting. As long as buffer zones are left around nests (30 acres) and cutting activities avoid a fledging area (400 acres) during the fledging season, there should be no problems. Though this bird may occur in Boulder County, I am not aware of it.

To the best of my knowledge, the black-footed ferret is listed only because its prey (prairie-dogs) is found here. I do not know of any sightings. The ferret is a creature of the plains and would not pose a problem for most mountain projects.

The whooping crane was included on the list because it might come here during migration. Again, I am not aware of any sightings and it is a shore bird and very unlikely to be seen in the mountains. The same applies to the Eskimo curlew.

The Ute ladies'-tresses only occurs below 7000 feet; there may be some on this property. It would be wise to keep an eye out for it.

The black tern is a shorebird and is a concern around creeks and reservoirs, but not in the mountains, away from water.

The black-footed ferret, Preble's meadow jumping mouse, fringed-tailed myotis, Colorado butterflyweed and showy prairie gentian occur only in the plains. The mountain plover, northern goshawk, Mexican spotted owl and purple lady's slipper occur only in the mountains (except for a single spotted owl sighting in Adams County). Other listed species could occur in either mountains or plains, especially areas where forest and prairie intermix.

Wildlife Habitat Opportunities: There are a number of practices that could be implemented to enhance the property's usefulness to various species of wildlife. Several ideas are:

1. Create woodpecker and cavity-nesting bird habitat by killing selected trees and letting them stand. As these trees die, they are attacked by woodborers and other insects which provide food for woodpeckers. As the trees decay, woodpeckers build nests in them, providing housing for themselves and other cavity-nesting birds, such as flycatchers (Woodpeckers are perfectionists; it takes them five or six tries before they get the hole just right; the extra holes are available for other animals to use.). Snags at least 10.0 inches in diameter are needed at a rate of 2.3 per acre in areas more than 300 feet from the meadows, this should be increased to at least 3.0 per acre (maximum of 7.0 snags per acre) near the meadows.
2. There is little that can be done to benefit deer on a property this small. Forest management practices encourage deer, which encourage mountain-lions, which take deer, dogs, cats, an occasional jogger and have even been known to attack children. The following practices will benefit deer, as much as is possible:
  - A. When dwarf-mistletoe cuts are made, care must be taken not to produce openings larger than 300 feet across, and to

leave cover strips at least 300 feet in width connecting sapling and pole stands.

- B. Cutting should be done as quickly as possible to minimize animal disturbance. This restricts the choice of cutters to those capable of completing the project quickly and requires short-term cutting Agreements.
  - C. After all dwarf-mistletoe is removed from a portion of a stand, the cut patches should be allowed to restock themselves. If natural regeneration is not restocking the site at the end of five years, planting is recommended on the south side; the north side will retain adequate stocking, even after a dwarf-mistletoe cut.
3. Meadows (both natural and artificial) can be used by western blue birds if there is adequate nesting cover nearby. Thinning work eliminates nesting trees, unless special efforts are made to preserve useable trees. These are snags located at 100-yard intervals around the perimeter of the cut. They are created by girdling selected trees: these trees must be at least ten inches in diameter; trunks must be sheltered by foliage from other trees; and there can be no tall grass or forbs around the stump.

It takes several years for a girdled tree to die and decay enough that woodpeckers will build nesting sites in it. In the mean-time nesting boxes should be put up. These should meet the same requirements for spacing and location as nesting trees.

4. Slash left over from dwarf-mistletoe cutting could be piled to create shelter for small animals ("bunny houses"). A few larger pieces will be needed to hold slash off the ground and permit access, so some three-to-six diameter material will need to be preserved during cutting. These are constructed shelter piles and not just a haphazard pile designed more to make the site look nice than to provide animal cover.

In order to meet Stewardship requirements, at least one of the above practices must be implemented. Cost-sharing will probably not be available (The practices are not required if cost-sharing is not available.).

INVENTORY: The entire property is in the ponderosa pine/Douglas-fir/Arizona fescue ecotype.

Stand A (11.4 acres) is a ponderosa pine/Douglas-fir stand with a significant lodgepole pine component. Though classified as small sawtimber, there is not a lot of commercial volume present. The

stand is steep, with access problems for anyone working on it. Dwarf-mistletoe is common with a large patch north and west of the house. Dwarf-mistletoe reduction, thinning and sale of thinning products as firewood is recommended. Total stocking runs about 1200 cubic feet per acre or 120 square feet of basal area per acre.

Stand B (8.1 acres) is a ponderosa pine, small sawtimber stand. It is heavily-infected with dwarf-mistletoe and some trees have been attacked and killed by mountain pine beetles secondary to dwarf-mistletoe. Stocking is about 90 square feet of basal area, 1500 board feet, or about 700 cubic feet per acre. The entire stand is accessible to pickups.

SILVICULTURAL OBJECTIVES: Free stands from dwarf-mistletoe. This should be done by dwarf-mistletoe reduction, involving cutting of heavily-infected trees, followed by at least five con-  
secutive years of pruning residual trees clean. Following the fourth cleaning, stands need to be planted to bring stocking to 100 growing stock level (GSL).

The north side of the property needs no activities beyond dwarf-mistletoe control.

A Defensible Space practice around the house, in combination with dwarf-mistletoe control is recommended to enhance fire safety.

#### IMPLEMENTATION SCHEDULE:

There is no minimum treatment rate.

The schedule below is suggested, not required.

1999: Remove heavily-infected dwarf-mistletoe trees. Walt Chapman would be a good contractor for this work. If he does the initial cutting, it would probably be a good idea to have him do the first dwarf-mistletoe treatment at the same time. Prune residual trees free of visible dwarf-mistletoe. Combine dwarf-mistletoe treatment with Defensible Space practice.

2000: 1. Prune dwarf-mistletoe from area around house.  
2. Prune Stand B west of house.

2001: 1. Prune dwarf-mistletoe from area around house.

2. Prune Stand B west of house.
  3. Prune Stand B east of house.
- 2002:
1. Plant area around house, if desired. If you "reforest" at least one acre each year, you can make use of the Federal 10% investment tax credit and deduct an amortised amount from income (84 months, straight-line method, half-year convention). Consult your tax preparer for details.
  2. Prune Stand B around house.
  3. Prune Stand B west of house.
  4. Prune Stand B east of house.
  5. Prune west third of Stand A.
- 2003:
1. Replant failed seedlings around house (Expect about 15% losses that will need replacing.).
  2. Plant Stand B west of house.
  3. Prune dwarf-mistletoe from trees around house (This should be the last pruning, if others have been thorough.).
  4. Prune Stand B west of house.
  5. Prune Stand B east of house.
  6. Prune west third of Stand A.
  7. Prune middle third of Stand A.
- 2004:
1. Replant Stand B west of house.
  2. Plant Stand B east of house.
  3. Prune Stand B west of house (Should be last pruning.).
  4. Prune Stand B east of house.
  5. Prune west third of Stand A.
  6. Prune middle third of Stand A.
  7. Prune east third of Stand A.
  8. Have this plan updated, if needed. "The best-laid plans of mice and men...."

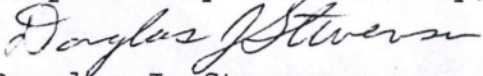
SUMMARY:

With the help of cost-sharing programs, and tax benefits, this property can produce forest products profitably.

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

Thank you.

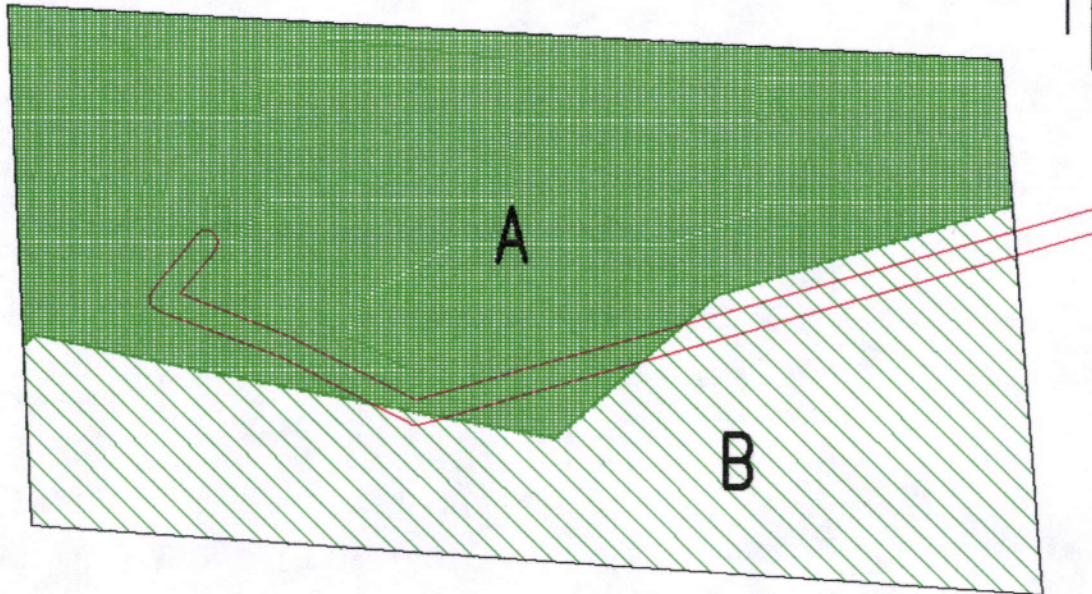
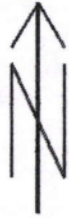
Respectfully submitted by,



Douglas J. Stevenson  
Assistant District Forester



Colorado State Forest Service

Scale: 1:2931; 1 Inch = 244 Feet



# Bunny Spangler

S1/2 NE1/4 SW1/4, Sec 14, T1S, R72W, S.P.M.

- Property Line
- Road
- Permanent Stream
-  Ponderosa Pine
-  Ponderosa Pine/Douglas-fir

Drawn By: Douglas J. Stevenson

March 5, 1999