

Hopkins Demonstration Forest Stewardship Plan

June 30, 2006



This management plan follows the Resource Management Planning template designed by the Oregon State University Extension Service to provide a fairly simple way to write management plans for participants in the OSU's Resource Management Planning (RMP) course. Plans developed using the template and the RMP curriculum are meant to be consistent with the Oregon Forest Stewardship Planning Guidelines and may be accepted by the Oregon Department of Forestry as "Forestry Assistance" Stewardship Plans under the Stewardship Incentives Program, with the approval of the local Service Forester. Also, the RMP plans exceed the requirements of the American Tree Farm System for Certification as a Tree Farm.

A. General Information

A1. Cover Page

Date of plan: June 30, 2006

Landowner Information

Name: Forests Forever, Incorporated

Address: 19170 S. Molalla Avenue

Oregon City, OR 97045

Phone: 503-655-5524

Fax and/or email: 503-655-6578; ken@mapforesters.com

Tract Information

Name: Hopkins Demonstration Forest

Size: 140 acres

Legal description: T 4 S, R 2 E, Section 2 (tax lots 1600, 1690 and 1700)

Latitude & Longitude: N45/15.020; W122/31.300 (at Main Gate)

Tax Information

Land use classification: TDR (Timber District Rural; 80 acre minimum lot)

Fire Protection District: Clackamas-Marion Fire Protection District

Property tax classification: Small Tract Forestland (STF)

Plan writers: Michael C. Bondi, Extension Agent—Forestry
OSU Extension Service, Oregon City, OR

John Poppino, US Forest Service, retired, and family
Forest Owner, Milwaukie OR

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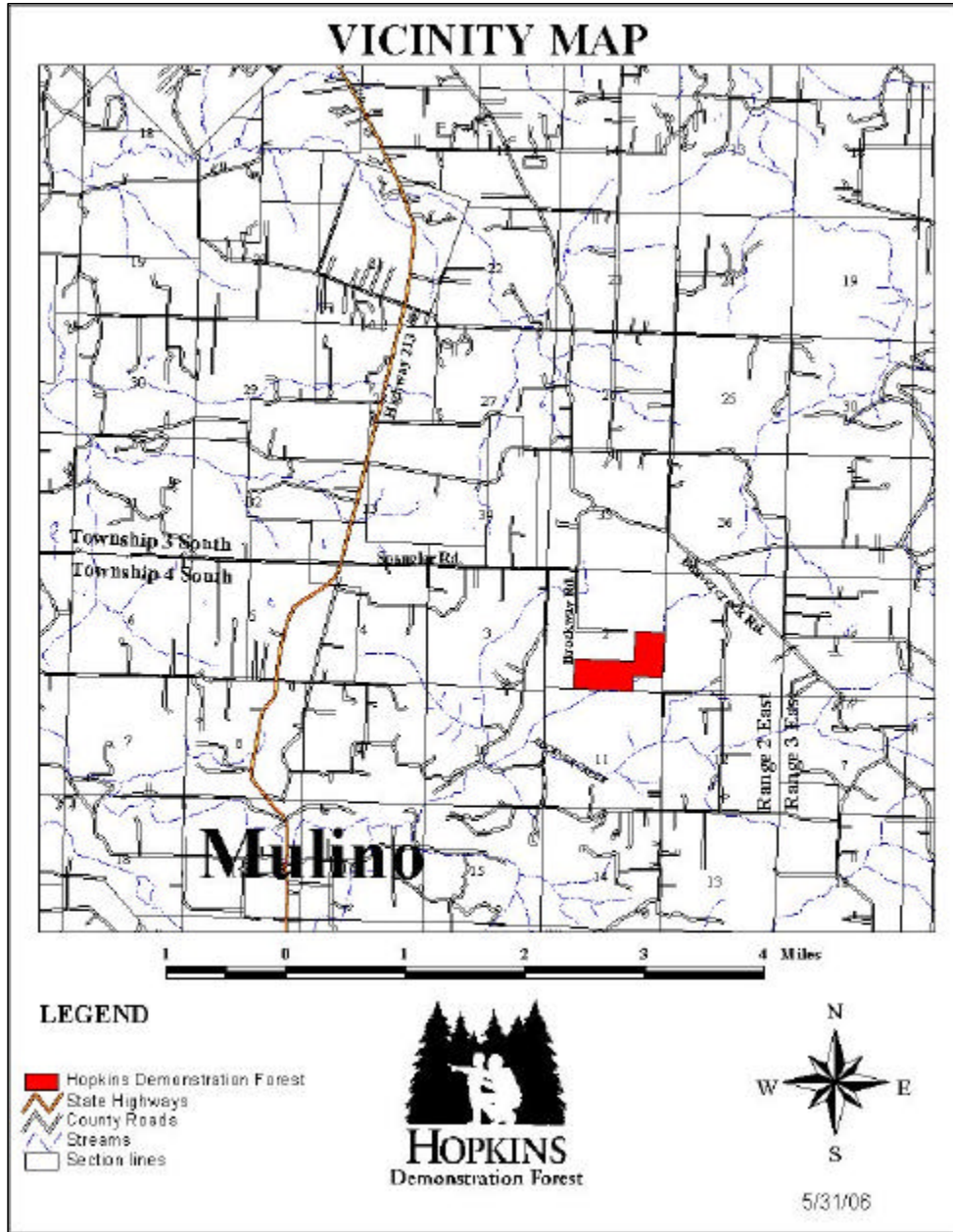
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A2. Property Description

Figure 1.

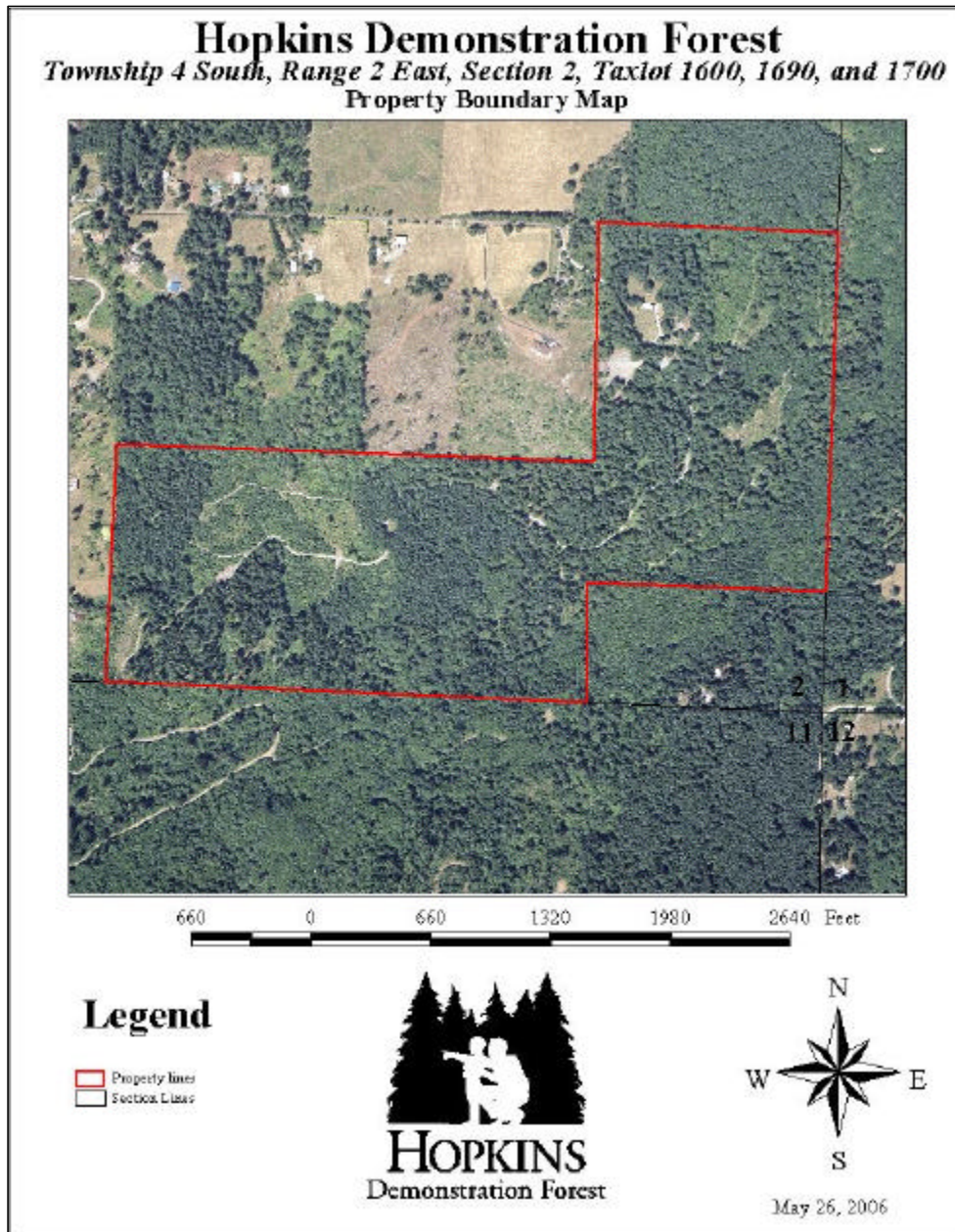


The Hopkins Demonstration Forest is located approximately 10 miles south and east of Oregon City, in the Beaver Creek area. Travel on Highway 213 from Oregon City about 4.5 miles south from the Clackamas Community College Entrance. Turn east on Spangler Road and travel two miles to the junction of Brockway Road. Follow Brockway Road about one mile to the end of the pavement and proceed on the gravel access driveway to the farm gate.

The Hopkins Demonstration Forest is a 140 acre parcel with a southerly and

westerly sloping landscape composed of primarily Douglas-fir and western redcedar forests—from newly planted areas to natural stands up to 70 years old. Other less common tree species include red alder, bigleaf maple, black cottonwood, and Pacific madrone.

Figure 2.



The property elevation ranges from approximately 400' to 700'. Soils are mostly shallow and rocky. The predominate forest site productivity is Site Class III. Nearly 3500 feet of a small and medium fish bearing stream parallels the southern boundary of the farm. Three significant intermittent streams are found on the property too.

This forest property has been mostly managed as a family forest ownership for the past forty years. As a result, road access is good, including all-weather and summer-only

routes. A wide variety of forest management treatments and habitat types have been developed. Since 1991 the Hopkins Demonstration Forest has been managed as an educational and demonstration forest.

Prior to April 2006 this property was known as the Hopkins Memorial Tree Farm.

History Statement

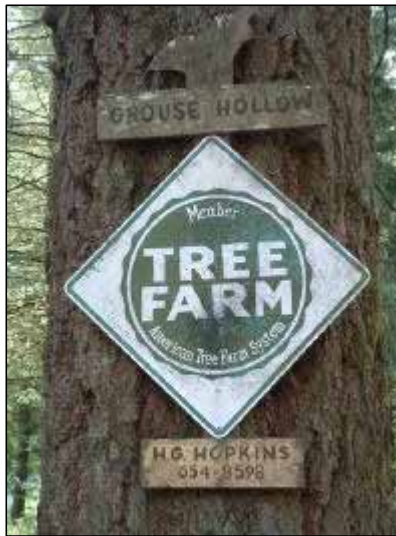


Margaret Hopkins

The Hopkins Memorial Tree Farm was created in 1990 when Margaret Hopkins, Milwaukie, gifted her family's 120-acre Grouse Hollow Tree Farm to the non-profit organization, Forests Forever, Inc. Margaret had worked closely with forestry consultant, Ken Everett, and Oregon State University Extension Agent, Mike Bondi, to establish a demonstration forest as a memorial to her late husband, Howard.



Howard Hopkins



Howard and Margaret Hopkins purchased their forest tract in 1962. The land provided Howard, a career professional forester with the U.S. Forest Service, a place to practice his passion—managing a forest—during his personal time. When purchased, their Grouse Hollow Tree Farm was mostly a cut-over property (Howard called the land a “stump ranch”), the result of several loggings during the earlier portion of the 20th century.

Howard worked diligently to clear the brushy and underproductive areas and plant new trees. He developed a road access system throughout the farm including an all-weather mainline road. Howard built two small fire-chance ponds. He thinned merchantable forest stands. Most of his efforts resulted in relatively small treatment areas on the property ranging in size from 1 to 25 acres.

Howard, affectionately known as “Hoppy”, was well-respected within the forestry profession and the family forestland owner community. He was active in the Clackamas County Farm Forestry Association, working closely with the Seedling Committee and serving as the organization's president. Howard and his wife, Margaret, were recognized as Clackamas County Woodland Farmers of the Year in 1978 and Evergreen Awardees in 1985. Howard passed away in 1989.

When Margaret Hopkins decided to create an educational forest honoring her late husband, her dream was to create a place where a wide variety of visitors (from school children and teachers to woodland owners, professional foresters and the public) could learn about Oregon's forests, forest management, and the important role of family forest owners in the region's economy. The Hopkins' tree farm was an ideal place to showcase family forest management. The family's gift is an enduring memory to both Howard and Margaret.

Following months of investigation and planning, Forests Forever, Inc. (FFI) was incorporated in September 1990 by Ken Everett and Mike Bondi. At the close of the calendar year, Margaret gifted the Hopkins family's property, Grouse Hollow Tree Farm, to FFI. Early in 1991, a Board of Directors was appointed to oversee the new non-profit organization. Since taking ownership, FFI has undertaken an aggressive program to manage the Hopkins Memorial Tree Farm in conjunction with their mission, vision and goals for the organization and their tree farm. During the past 16 years more than 15,000 visitors have visited Hopkins Memorial Tree Farm to learn about and study Oregon's forest.

The first management plan, a Stewardship Plan submitted to the Oregon Department of Forestry, was prepared in 1992. Updated forest inventory (timber only) was collected in 1997 and 2005. Revised timber harvest schedules were prepared too. Various other inventories and data collection activities have been done since the original management plan was written and have been added to this revised Stewardship Plan.

In 1999, Forests Forever, Inc. purchased the neighboring 20 acre parcel owned by Juanita "Nita" Corene Post. Her parents, William and Essie Gehren, had purchased their tract about the same time the Howard Hopkins bought Grouse Hollow. Nita and her husband, Norm, lived on the family property during the last years of the Gehrens' lives, as well as their own. After Norm's death, Nita contemplated selling a portion of her property to help with her financial situation.



Following discussions with the family, FFI purchased the Gehren property on a life estate agreement with Nita. The purchase secured FFI's access to the Hopkins Memorial Tree Farm and limited the future impact the demonstration forest might have on new neighbors—plus provided a home where Nita could remain for the rest of her life.



Following Nita's passing in December, 2003, Forests Forever gained possession of the property in May, 2004. The following months of activity until the writing of this management plan, have seen many changes at the Post property. The Post's mobile home was renovated inside and out. The old Gehren house and several outbuildings were removed. Timber harvesting and thinning was completed on about four acres on the site. And, a new two-lane entrance road was constructed, including a new access gate for the forest.

For more than the first dozen years since the inception of Forests Forever Inc., the organization functioned largely as a volunteer entity. The twelve person Board of Directors provided oversight and guidance for the non-profit corporation. And the Board did most of the work from on-the-ground management to the educational program delivery.

The first significant grant funding, Title III—Secure Rural Schools, was awarded to Forests Forever by the Clackamas County Board of Commissioners in 2002. The grant provided the opportunity to take Forests Forever’s educational program to new heights with the hiring of a full-time Community Outreach Coordinator, Tim Lichen. Additional Title III grants were awarded to FFI during 2003, 2004 and 2005, to continue and grow this education program.

In addition, Forests Forever initiated an Education Consortium of community partners to develop an on-going and sustainable flow of financial resources to ensure continuity of its education program beyond the termination of Title III funding—now expected to be in September 2007. The Consortium is intended to develop a broader base of financial support and grow funding for education, approximately \$100,000 each year. Funds will be used to support the Community Outreach Coordinator position and the education program. From its beginning in 2004 with three Consortium partners, by June 2006 the Consortium included 12 partners and more than \$82,000 of commitments for the current year. Additional funders for 2006 are still being sought.



A3. Landowner Goals & Objectives

During a retreat in February 1999, the Forests Forever, Inc. Board of Directors established the following vision, mission, goal and objectives for the organization and management of the Hopkins Demonstration Forest. These items were reviewed at a subsequent Board of Directors retreat in December, 2003.

Vision Statement for 2010

Forests Forever, Inc. provides science-based and innovative education about the complexities of woodland management while involving participants in hands-on learning at demonstration sites designed to model sustainable natural resource practices for the 21st century.

Mission Statement

Our mission is to help youth, family forest owners and the community learn about sustainable forestry and why it’s important to all Oregonians.

Goal

To provide woodland educational opportunities at the Hopkins Demonstration Forest annually for 1000 to 3000 participants with outdoor learning activities.

Management Objectives

OBJECTIVE #1: Manage a hands-on woodlands education program at Hopkins Demonstration Forest serving a variety of audiences and including:

- school-based curriculum with an Educational Coordinator
- forest landowner classes and demonstrations
- teacher training and workshops
- tours and outdoor experiences for the public
- tour guide support

An Education Committee will oversee the coordination of these activities.

OBJECTIVE #2: Manage a minimum annual operating budget of about \$120,000 for the general management of the Hopkins Demonstration Forest. Primary sources of funding include:

- memberships
- grants
- donations
- sales of sustainable forest products

OBJECTIVE #3: Manage Hopkins Demonstration Forest timber resource, including harvesting, to provide a sustainable flow of forest products for income and to maintain forest health and productivity. The annual sustainable harvest is projected to be approximately 50,000 board feet per year.

OBJECTIVE #4: Manage Hopkins Demonstration Forest wildlife and fish habitat to accommodate a diverse natural fauna consistent with other forest resources, thereby creating a healthy environment for the growth and development of these species—while providing opportunities for enjoyment.

OBJECTIVE #5: Manage Hopkins Demonstration Forest soil and water resources to maintain or enhance soil productivity and water quality. First priority will be to address any significant problem areas where off-site damage might occur. Resource protection to avoid future problems will be the second priority.

OBJECTIVE #6: Manage Hopkins Demonstration Forest recreation opportunities, in conjunction with project development and educational activities, to provide:

- hiking trails that access demonstration areas
- picnic and overnight camping in designated areas
- watchable wildlife
- controlled access for local equestrian users
- other recreational activities as appropriate

OBJECTIVE #7: Develop a property management and administrative process to meet objectives #1 through #6 in a timely manner by:

- developing annual activity plans and budget
- maintaining current management plans
- managing facilities
- overseeing several volunteer community committees assigned with specific responsibilities such as:
 - budget and finance
 - education, fire and safety
 - forest management, membership
 - property management
 - publicity and media
 - recreation and trails, wildlife
 - providing administrative oversight

B. PHOTOS AND MAPS

On the following pages are several photo maps of the Hopkins Demonstration Forest including the following:

- topographic photo map (Figure 3)
- management unit photo map (Figure 4)
- soils photo map (Figure 5)
- roads, trails and streams photo map (Figure 6)
- adjacent ownership map (Figure 7)

Figure 3.

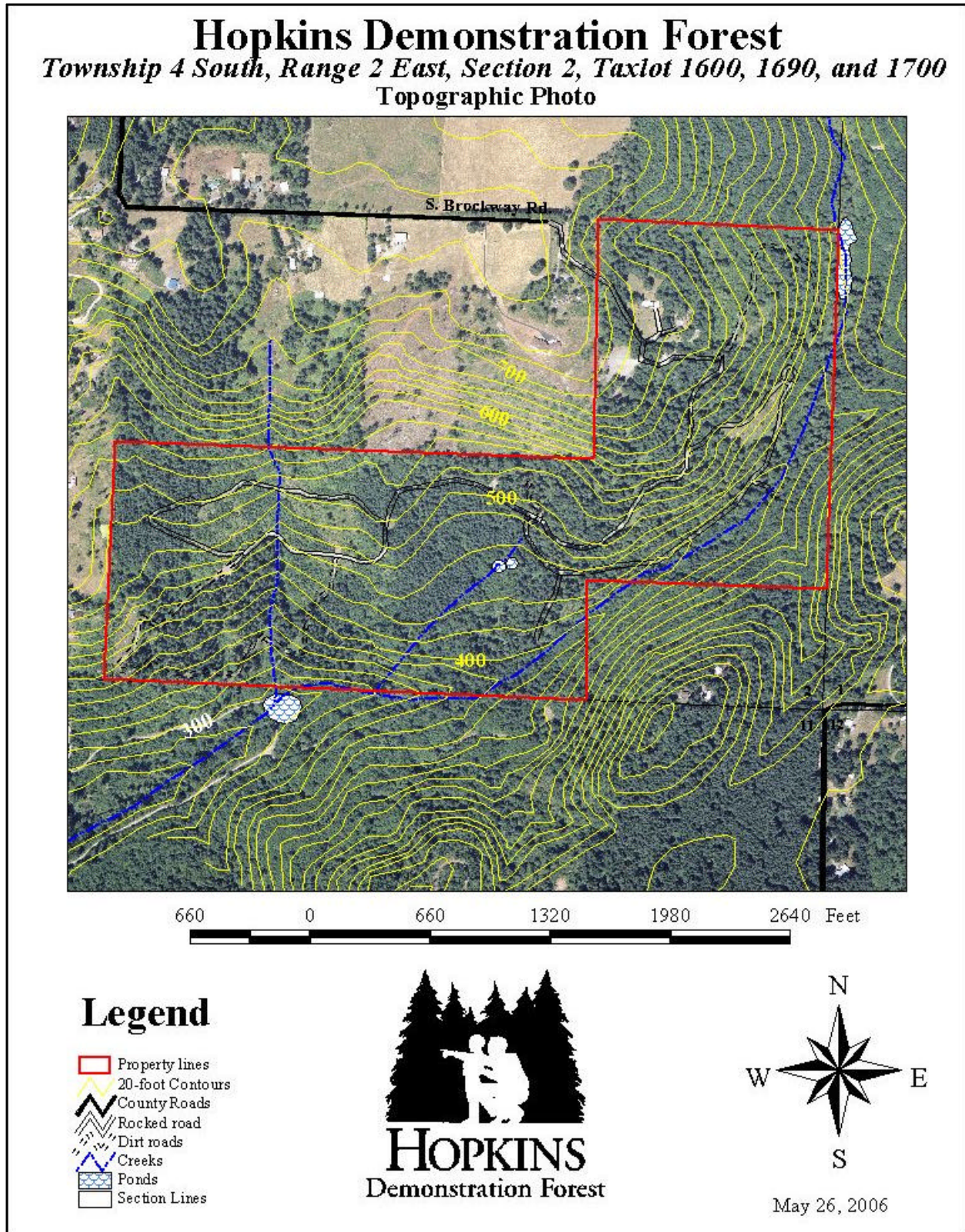


Figure 4.

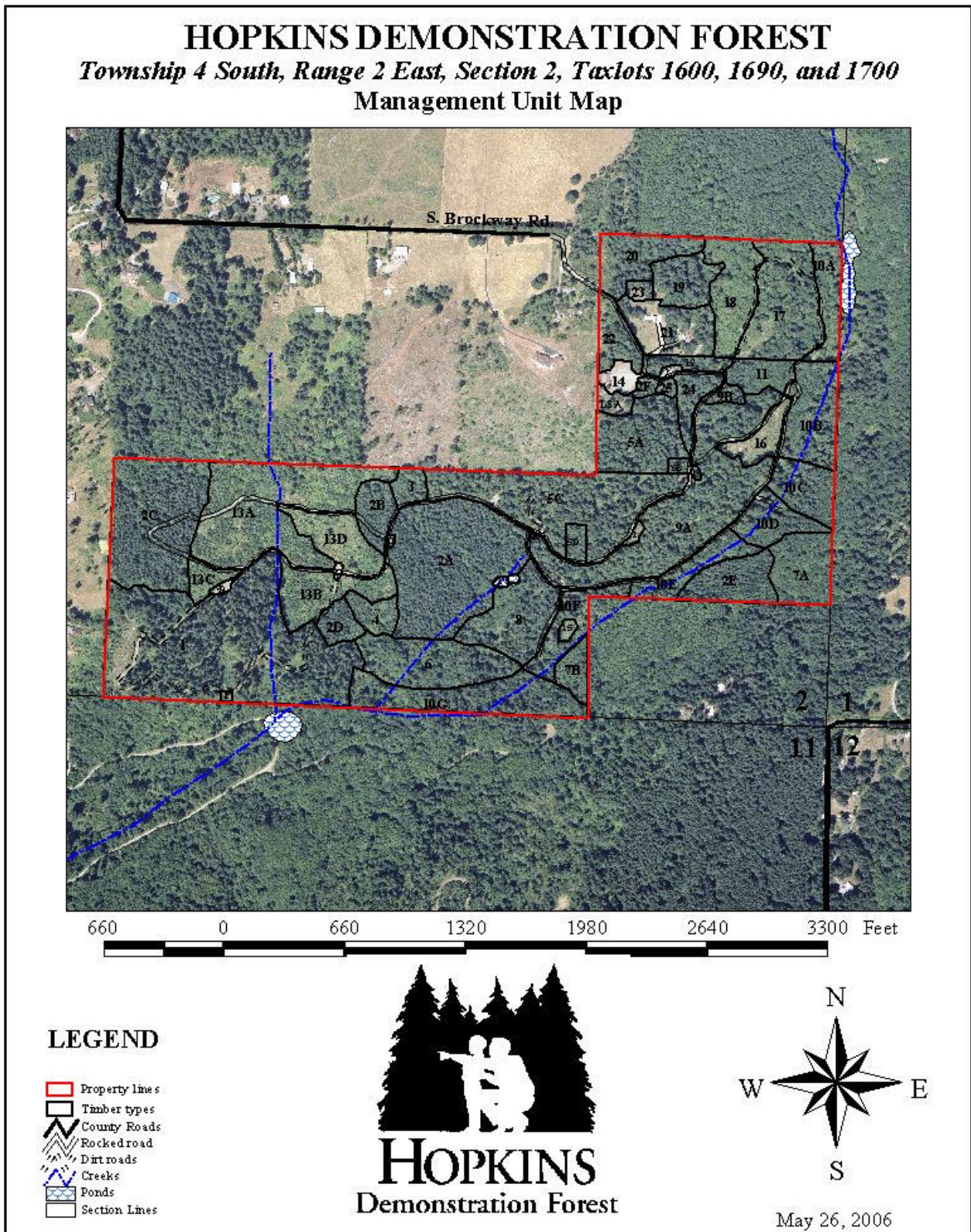


Figure 5.

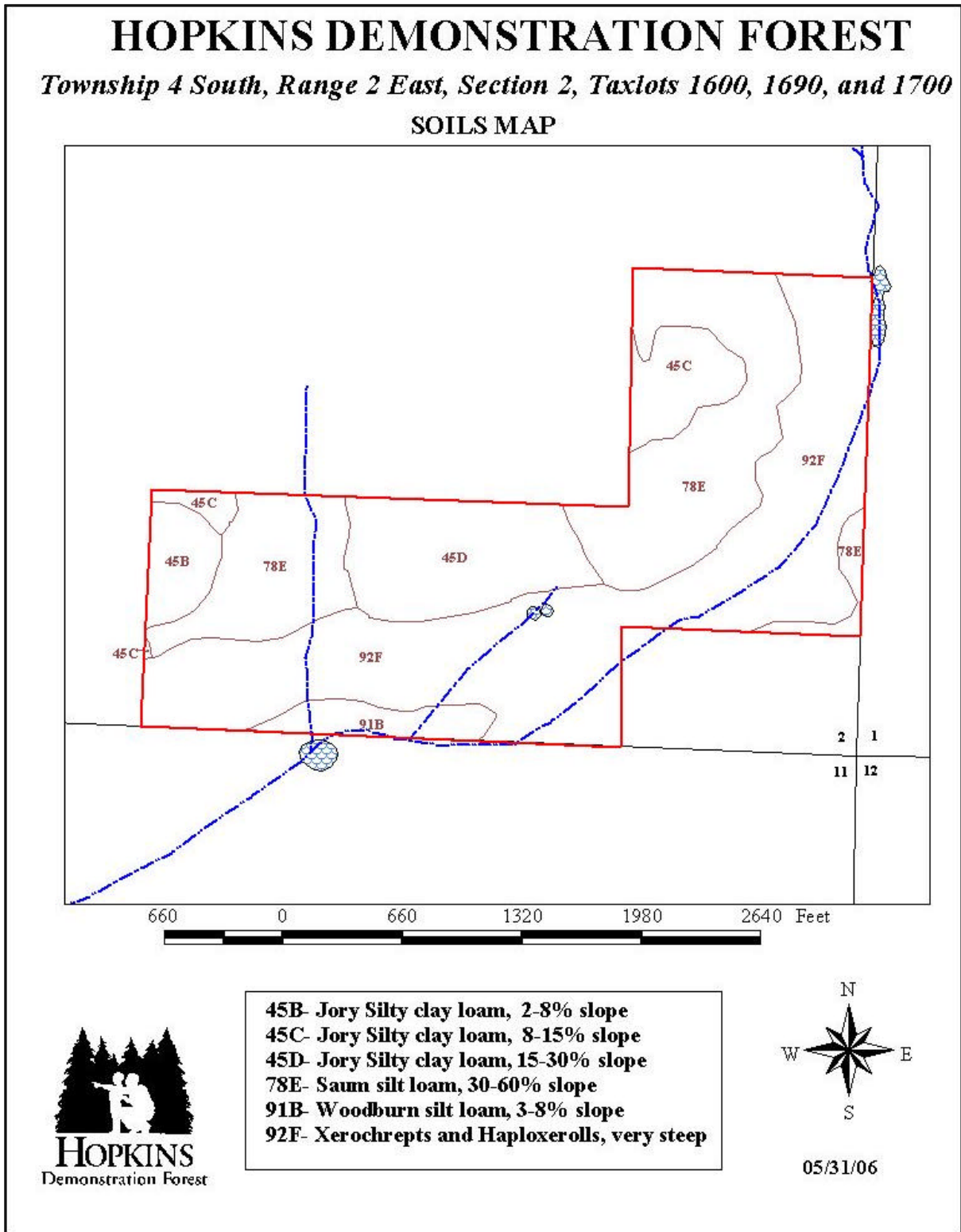


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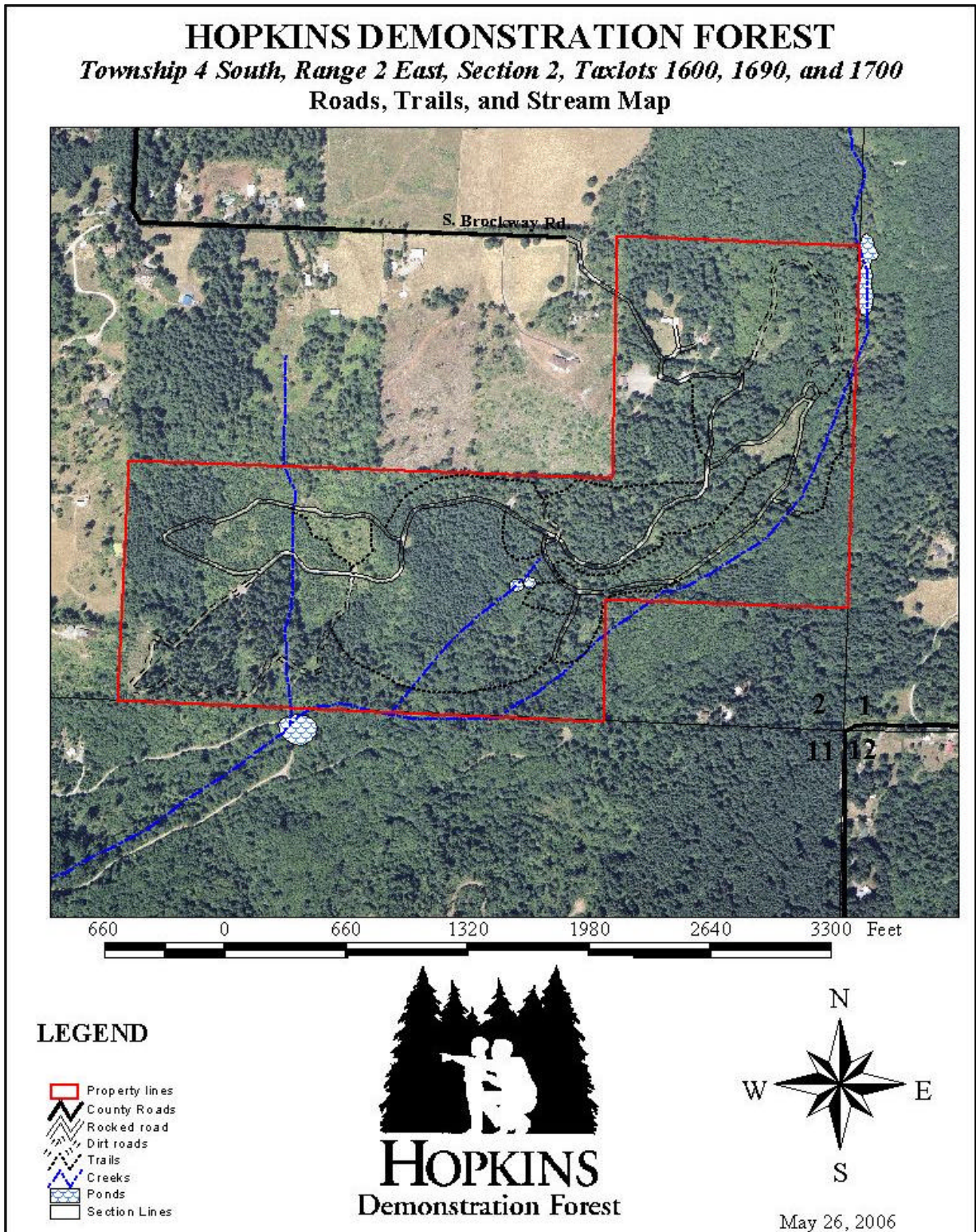
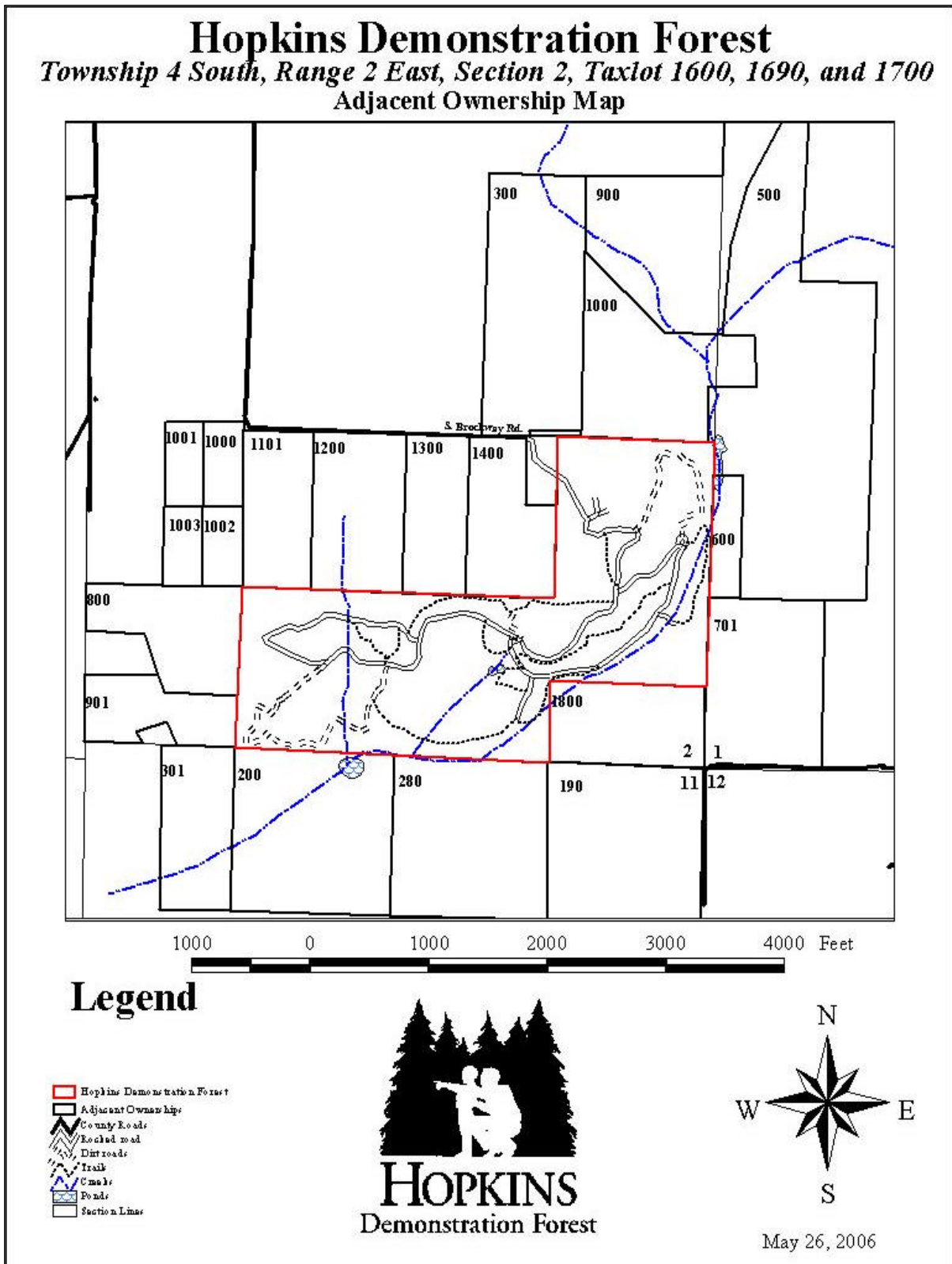


Figure 7.



C. Resource Inventories

C1. Upland Inventory

Forest Management Units, 1-25

The forest management units at the Hopkins Demonstration Forest generally match the major vegetative types on the property. Roads and topographic features have been frequently used to define management or operating units. The map in Figure 4 shows these locations. Table 1 summarizes the characteristics for these units. A detailed description for each of these units follows. Units noted with an asterisk (*) indicate updated volume data from 2005 resource inventory.

Table 1. Forest Management Unit Summary

Unit #	Name or Description	Birth Date	Area (acres)	Volume per acre (BF)	Volume per unit (BF)
1	Uneven Age Management Area (includes 6.4 acres of group selection regeneration areas)	1931	17.7	37,900	416,900*
2	Plantation Forest <ul style="list-style-type: none"> • 2A, 2B and 2C: Thinning & Pruning Research Areas • 2D: Plantation with bird boxes • 2E: Plantation across the creek • 2F: Plantation adjacent to the Parking Lot 	1977	23.2	16,980	393,936*
3	Maple Forest	1985	0.8	NA	NA
4	Hoppy's Last Stand	1988	1.1	NA	NA
5	Upland Hillside Forest <ul style="list-style-type: none"> • 5A: Pole Management Area • 5B: Pole Management Area (Reserve) • 5C: Hillside Mixed Forest • 5D: Hillside Mixed Forest (Reserve) 	1939	13.4	30,410	407,494*
6	No Man's Land	~1960	4.4	5,000	22,000
7	Alder Forest <ul style="list-style-type: none"> • 7A: Alder Forest—east • 7B: Alder Forest--west 	1960	3.8	6,500	24,700
8	In and Around the Ponds	--	4.0	25,800	103,280*
9	Below the Mainline Forest <ul style="list-style-type: none"> • 9A: Below the Mainline Forest—Long Rotation • 9B: Below the Mainline Forest--Reserve 	1939	11.0	27,800	305,800*

Table continues on next page...

Unit #	Name or Description	Birth Date	Area (acres)	Volume per acre (BF)	Volume per unit (BF)
10	Riparian Forest <ul style="list-style-type: none"> • 10A: Riparian Mgmt Demo • 10B: Riparian Mgmt Demo • 10C: Riparian Mgmt Demo • 10D: Riparian Mgmt Demo • 10E: Riparian Mgmt Demo • 10F: Riparian Mgmt Demo • 10G: Riparian Mgmt Demo 	Multiple	18.6	NA	NA
11	Steep Hillside Forest	1983	1.4	NA	NA
12	Hopkins Hall at the Edge	--	0.9	NA	NA
13	Margaret's Old Clearcut	1992/93	15.6	NA	NA
14	Parking Lot/Logging Sports Area	--	0.7	NA	NA
LSA	Logging Sports Area	--	0.6	NA	NA
15	Boomer Hole Rehab	1998	0.2	NA	NA
16	Cedar Clearcut & Reforestation	1999	1.9	NA	NA
17	OSSC Post Rehab	2005	5.3	NA	NA
18	Norm's Logging	1993	3.3	NA	NA
19	Post Thinning	1968	2.0	NA	NA
20	Alder Plantation	2006	2.7	NA	NA
21	Post Home/Building Site	--	3.1	NA	NA
22	Fringe	--	1.5	NA	NA
23	Noble Fir Bough Orchard	2006	0.3	NA	NA
24	Inside the Switchback	--	1.3	NA	NA
25	Hole Below the Classroom	--	0.2	NA	NA
	Parking and Landing Areas		1.0	NA	NA
TOTALS			140.0		1,674,110

Unit #1: Uneven Age Management Area (17.7 acres)



This management unit is the farm's oldest and finest timber stand. The area developed naturally since the 1930s. Now, this 17.4 acres is a 70-year-old Douglas-fir stand mixed with an understory of western redcedar. The average volume per acre is about 37,900 board feet within the matrix forest (i.e., the non-group selection areas). This management unit includes 6.4 acres located within four group selection areas. Each of these areas has only been regenerated within the past ten years.

The soils in this unit are composed of Jory (45B, C, D), Saum (78E), and Xerochrepts and Haploxeroll (92F) which are well drained and have some limitations for road building in that they need heavy base rock to prevent sinking . Care must be given to placing skid trails and roads on the more gentle areas of the slopes to reduce the chances of slumping. Skid trails must be cross drained or outsloped to prevent erosion.

Unit #1 was designated as an Uneven Age Management Area in 1994 when OSU Extension Silviculturalist, Bill Emmingham, and Extension Forestry Agent Mike Bondi, decided to model the partial harvest silvicultural system in the Douglas-fir type. A committee of about 10 local family forest owners and professional foresters helped design and implement the demonstration project.

The first activity included the development of a permanent designated skid road system in 1994. At this time about 40,000 board feet of wood was harvested as the roads were established and underproductive hardwood patches were cleared for replanting. Young forest plantings were established in the $\frac{1}{4}$ acre to $\frac{3}{4}$ acre open patches formerly occupied by hardwoods. Douglas-fir and western redcedar were planted to create small even age stands within the open areas.

During 1995 and 1996, a thinning was implemented each year treating the west half and east half of the matrix forest within the unit. Harvest removals were 45,000 and 50,000 board feet, respectively, during these years. Following these harvests, the residual stocking was about 60 trees per acre and approximately 80 square feet of basal area. The average stand diameter is about 20”.

Understory planting was undertaken on about three acres within the matrix to begin the process of establishing a multi-storied and multi-aged forest. Douglas-fir and western redcedar were planted.

A second thinning harvest entry was conducted in 2002 on the western half of the matrix forest. About 24,000 board feet of timber was removed. A second thinning entry is planned on the eastern half of the matrix during 2006.

The overall strategy for the Uneven Age Management Area will be to continue light and frequent thinning entries in this unit every seven to eight years, depending on growth and markets. Each year, open areas will be planted to encourage the understory development. This unit will never be clearcut, but only managed using a periodic series of thinnings designed to maximize light to the understory. Trees removed will generally be larger diameter individuals.

Table follows on next page...

Table 2.

Type Unit #1: Uneven Age Management Area—Volume Computation		
Date: July, 2005 Plot Sizes: 0.10 acre 10 plots in Type #1		
	Douglas-fir	Western redcedar
Stand age	73	73
Average tariff	42	27
Average radial growth	0.273?/year	0.382?/year
Average stand diameter	17.2?	18.4?
Average volume/acre (32" logs)	35,620 board feet	2,280 board feet
Basal area/acre	168 sq. ft.	21 sq. ft.

Unit #2: Thinning and Pruning Research Area (23.2 acres)

This area includes five stands on the tree farm. All areas were clearcut harvested in 1976 and broadcast burned before planting in 1977.

Soils in this unit are composed of Saum (78E) and Jory (45B, C, D) that are well suited to timber production. However, slopes need to be considered when logging. Skid trails should be carefully placed in the more gentle areas and cross drained or outsloped to reduce erosion. Roads need heavy base rock to prevent sinking.



The stands were poorly stocked conifer areas with significant hardwoods prior to harvesting. The areas were planted with a pure stand of Douglas-fir following logging. Although generally considered fully stocked, there are significant areas in each stand that are under-stocked openings resulting from heavy mountain beaver damage. These areas are scattered, ranging in size from one-fourth to one acre. Besides weed control during the first few years of establishment, no other management had taken place prior to 1998. Since the creation of the Hopkins Memorial Tree

Farm, the plan had been to precommercially thin these stands. However this work was never done.

Instead, in 1998 a series of thinning and pruning research plots were established to compare these stand treatments. Design and layout for this study was accomplished by Jacob Weiss, a German forestry student in Oregon on a work practicum. Karsten Schulz, another German forestry student, provided the logging oversight for the project in 1998 and 1999.

Four treatments are replicated twice. Each treatment is indexed to a relative density measurement that estimates the stocking of the forest based upon an assumed maximum value for Douglas-fir. Treatments include standard thinning model ($RD^1 \sim 35$) with and without pruning, uneven age conversion thinning ($RD \sim 25$) with high pruning, and control (i.e., no treatment). Subsequent thinnings will be done on a six to eight year cycle. The standard thinning model plots will be clearcut harvested at about age 50-60 years. The uneven age treatments will be progressively thinned continuously as an understory forest is established. The uneven age stand areas will never be clearcut.

Finally, the Thinning and Pruning Research plots are established within areas 2a, 2b, and 2c. Locations 2d and 2e are not part of this study project and have not been thinned to date.

Table 3.

Type Unit #2: Thinning and Pruning Area—Volume Computation	
Date: July, 2005 Plot Sizes: 0.20 acre 15 plots in Type #2	
	Douglas-fir
Stand age	28
Average tariff	30
Average radial growth	0.3297 year
Average stand diameter	11.2?
Average volume/acre (32" logs)	16,980 board feet
Basal area/acre	150 sq. ft.

Unit #3: Maple Forest (0.8 acres)

This area includes mostly large clumps of bigleaf maple stump sprouts. In addition, scattered conifers are present in this stand.

During 1996, students from the Sabin-Schellenberg Center thinned this stand leaving the best maple stem or two within each clump. And, the cut trees were high-stumped and inoculated with several varieties of edible mushrooms. The harvested trees were utilized for firewood.

Plans for this small stand include harvesting the scattered conifer as it matures while growing the maple for about 20 years or until about age 40 (about year 2025). At that point, the stand will either be reforested with conifer or replanted with maple.

¹ Relative Density

Unit #4: Hoppy's Last Stand (1.1 acres)

This plantation was Howard Hopkin's last establishment project on the farm. The year was 1988. The area started slowly due to heavy competition from grass and Howard's inability to maintain the planting as his health continued to decline. However, the area did become well established and is a thriving young Douglas-fir plantation today.

This stand will continue to develop until ready for its first commercial thinning projected to be about year 2012. The stand will be thinned 2 or 3 more times prior to a clearcut harvest at about age 60 years.

Unit #5: Upland Hillside Forest (13.4 acres)

This forest stand developed naturally and has a birth date of about 1939. It is likely that this area was cleared for pasture in the late 1800s or early 1900s. Eventually, the site became established with trees—mostly Douglas-fir with an understory component of western redcedar.

Soils in this unit are composed of Saum (78E) and Jory (45B, C, D) that are well suited to timber production. However, slopes need to be considered when logging. Skid trails should be carefully placed in the more gentle areas and cross drained or outsloped to reduce erosion. Roads need heavy base rock to prevent sinking

Unit #5 has been divided into several sub-units or management compartments. 5A is the "Pole Management" compartment where a series of frequent, light, selective thinnings are done to promote the development of large, Douglas-fir poles. Compartment 5B is a small $\frac{3}{4}$ acre reserve area within the pole management area to showcase the original stand type in the area.



Compartment 5C is a mixed Douglas-fir and western redcedar vegetation type along the hillside. Few poles were present in this portion of the area, so a series of commercial thinnings for sawlogs has been done within the unit. Compartment 5D is small reserve area left to demonstrate original stand conditions.

During the past 14 years, several forest management activities have occurred within Unit #5. First, a commercial thinning was conducted in 1991—removing about 30,000 board feet of mostly Douglas-fir. A pole thinning removed eight large transmission poles in 1992. And, approximately 25,000 board feet of western redcedar was removed in a thinning in 1997. The next thinning entry across the entire unit can be done at any time.

Today, Unit #5 consists of mostly Douglas-fir (about $\frac{3}{4}$ of the stand volume) and western redcedar, all averaging about 17-18" dbh. The site index is 133.

Table 4.

Type Unit #5: Upland Hillside Forest—Volume Computation		
Date: July, 2005 Plot Sizes: 0.10 acre 10 plots in Type #5		
	Douglas-fir	Western redcedar
Stand age	63	63
Average tariff	37	30
Average radial growth	0.318"	0.221"
Average stand diameter	17.6"	13.9"
Average volume/acre (32" logs)	24,500 board feet	5910 board feet
Basal area/acre	145 sq. ft.	50 sq. ft.

Unit #6: No Man's Land (4.4 acres)

This unit includes a mixture of hardwoods, brush, poison oak and underproductive ground. There's a good reason little to no attention has been given to this area for more than 40 years. Access to the location, beyond the end of Down Creek Road, has always been a challenge. Also, adjacency to Little Buckner Creek and the presence of significant wet or poorly drained areas has resulted in a "hands off" policy in the past.

Xerochrepts and Haploxeroll (92F) is the major soil in this unit. The soil is generally deep, well-drained and suitable for timber production soil, but steepness can be problem. Soil is prone to slumping so roads must be located in more gentle areas and have adequate drainage.

A priority for this area continues to be road access development and, eventually, clearing and reforestation. Progress toward these objectives will depend on other farm projects and finances available to invest in road development and the management unit. There's a good reason why Howard never did much with this portion of the farm—poor access and not much there!

Unit #7. Alder Forest (3.8 acres)

Pure natural stands of red alder developed in two small locations south of Little Buckner Creek. The total area for these stands is about 5 acres. Access to both is currently unavailable. Compartment 7A could be roaded from the end of the Vented Ford road. However, Compartment 7B will likely remain unavailable for management in the near future.

The stands are about 45 years old. To date, no management has occurred. Trees now average about 9" in diameter. The current plan would be to liquidate 7A when access is available. Significant winter storm damage occurred in these stands during winter, 2004 due to heavy snow and ice.

Soils in this unit are generally composed of Saum(78E) and Xerochrepts and Haploxeroll (92F) which are well drained and well suited to timber growing. Slope steepness is a concern and care needs to be taken in locating skid trails in the more stable areas. Roads also need to be on the more gentle slopes and have adequate drainage. Skid trails also need adequate drainage in the form of cross drains and/or outsloping.

The overall management plan for the property includes developing access beyond the Vented Ford within the next 2-5 years. The goal is to clearcut the alder stand and regenerate with Douglas-fir. The well-drained hillside, well-endowed with nitrogen for the past 40+ years, should provide an excellent location to grow the next fir forest.

Unit #8. In and Around the Ponds (4.0 acres)

This unit consists of lands “in and around” the two fire-chance ponds that were developed in the early 1960s. Approximately 3 acres lies adjacent to Creek Road and Down Creek Road and will be actively managed. The remaining acres include the ponds and nearby. A 100 foot buffer will be maintained around the ponds. The forest is a mixture of young or small and older trees, hardwoods and conifers, and open or brushy areas. Average stand volumes in the active management portion of this area are about 25,800 board feet per acre.

Jory (45D) is the major soil in this unit. It is an ideal tree growing soil; well drained and deep clay loam. The only limitation in this unit is the stoniness in surface layer. All weather roads require heavy base rock to prevent sinking.

The current management strategy for this unit would be to remove mature trees as marketable, clear large enough openings for the development of adequate regeneration, and the development of a multi-age, multi-species forest that provides maximum wildlife values and watershed health protection. The first-entry commercial thinning will be conducted in 2006.

Table 5.

Type Unit #8 In and Around Ponds—Volume Computation		
Date: July, 2005 Plot Sizes: 0.10 acre 5 plots in Type #8		
	Douglas-fir	Western redcedar
Stand age	--	--
Average tariff	40	26
Average radial growth	--?	--?
Average stand diameter	15.4?	12.5?
Average volume/acre (32?logs)	17,160 board feet	7,100 board feet
Basal area/acre	92 sq. ft.	79 sq. ft.

Unit #9: Below the Mainline Forest (11.0 acres)

The land area down over the hill from the Grouse Hollow Mainline Road—starting at the switchback and going to the Creek Road intersection—is a 67-year old stand of mostly Douglas-fir and western redcedar. The area was commercially thinned in 1991 and 1998. The unit is being managed on a longer rotation to about 90 years, with mature overstory trees being removed via commercial thinnings. As stocking continues to open in this stand, it is anticipated that natural regeneration or planted seedlings will promote the development of a next generation stand.

Soils in this unit are generally composed of Saum(78E) and Xerochrepts and Haploxeroll (92F) which are well drained and well suited to timber growing. Slope steepness is a concern and care needs to be taken in locating skid trails in the more stable areas. Roads also need to be on the more gentle slopes and have adequate drainage. Skid trails also need adequate drainage in the form of cross drains and/or outsloping.

Unit #9 has a site index of 135 and is composed of 75% Douglas-fir and 25% western redcedar by volume. The average stand diameter throughout the type is about 18”.

This unit consists of three management compartments:

1. 9A is the predominant portion of the stand and includes all land between the Grouse Hollow Mainline and Up Creek Road—from the Pole Landing to the Creek Road intersection. There is Douglas-fir root rot (Phellinus) present in this stand. Although it has been active for a long period of time, it appears to be moving relatively slowly. Included in this type is land east of Carlson Road too.
2. 9B is small stand located on the knob below the switchback on the Grouse Hollow Mainline Road. This stand will be retained for its aesthetic values and as a visual indicator of larger and older trees on the farm. No thinning or stand management has been or will be done in this area.

Table 6.

Type Unit #9A: Below the Mainline Forest—Volume Computation		
Date: July, 2005 Plot Sizes: 0.10 acre 9 plots in Type #9		
	Douglas-fir	Western redcedar
Stand age	65	65
Average tariff	36	28
Average radial growth	0.304”	0.344”
Average stand diameter	13.2”	15.0”
Average volume/acre (32” logs)	12,765 board feet	14,874 board feet
Basal area/acre	81 sq. ft.	138 sq. ft.

Unit #10: Riparian Forest (18.6 acres)



Nearly 11% of the Hopkins Demonstration Forest is included in Unit #10, the Riparian Forest. This area stretches from the far northeast corner of the property and along much of the eastern and southern border of the tree farm. Currently, nearly all of the land on the south and east side of Little Buckner Creek is inaccessible by vehicles, making active management difficult, if not impossible.

Xerochrepts and Haploxeroll (92F) is the primary soil in this unit. It is deep, well-drained and well suited to timber production soil, but steepness can be problem. Soil is prone to slumping.

The Riparian Forest represents a typical vegetative community representative of many such forests in western Oregon. The most common plant communities include Douglas-fir, western redcedar, red alder, big leaf maple, black cottonwood, and an assortment of shrubby plants.



The area was heavily harvested during the past century. Many examples of large, old-growth stumps still remain today. No management or regeneration was ever done, so the legacy we now have is mostly one of scattered conifer, many hardwood trees, and extensive areas of brush—sometimes featuring invasive plants like blackberries and scotch broom.

A significant portion of the Riparian Forest will be regulated by the rules now in place to protect and enhance these aquatic ecosystems. As a result, limited timber harvesting and/or timber stand improvement practices will be possible in many areas. Throughout the Riparian Management Area there are relatively few sections that meet current basal area target requirements for any harvesting.

This stewardship plan identifies seven riparian management and demonstration zones throughout the property. These zones will include areas where timber harvesting is permitted to areas where current stocking guidelines preclude any harvesting. Other areas will be converted from brush and invasive species to conifer and hardwood forests. During the summer of 2006, field delineation for the demonstration sites will be completed and active management for the first unit will be undertaken during 2007.

Unit #11: Steep Hillside Forest (1.4 acres)

This Steep Hillside Forest was clearcut, burned, and replanted in 1983. Although stocking is good over about half of the area, there are significant portions that are understocked. This poor stocking has resulted from severe mountain beaver damage and invasion by blackberries.

Saum (78E), a deep, well drained soil, is the primary soil in this unit. It is commonly used for timber production. Steepness of slope is a concern when growing timber. Roads need heavy base. The portion of the stand adjacent to the Grouse Hollow Mainline Road and just below the switchback has done well. Stocking and survival was good. Down over the hill from this location is where most of the problems exist in this unit. As a result, the upper portion of the unit was precommercially thinned by the Sabin Schellenburg Skill Center's vocational forestry students in 2002. The lower slope of this management unit is stocked with sprouting big leaf maple.

As this stand grows, thinning entries will be used to remove poorer quality trees and upgrade the overall condition of the stand.

Unit #12: Hopkins Hall at the Edge (0.9 acres)

This area includes the portion of the forest from the Demonstration Forest and the Post Property, around and behind Hopkins Hall, and south to the switchback on the Mainline Road.

There is very little continuous stand structure currently in this area. The primary objective will be to manage this location for aesthetic and functional values that relate to the operation of the educational facilities and programs at the farm.

The soils in this area are primarily Jory 45C which is an ideal tree growing soil; well drained and deep clay loam. Limitations include steep slope and stoniness in surface layer. All weather roads require heavy base rock to prevent sinking.

Unit #13: Margaret's Old Clearcut (15.6 acres)

The Plantation Forest was the last area harvested by Margaret Hopkins prior to her gifting the property to Forests Forever, Inc. and the development of the Hopkins Memorial Tree Farm. The area was clearcut in 1990. Mechanical site preparation was done in the summer of 1991. Reforestation was started in 1992 when nearly 5,000 tree seedlings were planted by more than 200 middle and high school youth. Additional planting was done in 1993 to fill in mortality.

Soils in this unit are composed of Saum (78E) and Jory (45B, C, D) which are well suited to timber production. However, slopes need to be considered when logging. Skid trails should be carefully placed in the more gentle areas and cross drained or outsloped to reduce erosion. Roads need heavy base rock to prevent sinking.

The original regeneration plan for the Plantation Forest was to model the results of using a variety of site preparation methods and seedling stock types. As a result, the unit has been divided into several management compartments. 13A is the predominant treatment and features land that was site prepped by machine piling, followed by a burning of the piles. Two Douglas-fir stock types, standard seed source and genetically improved, were planted.

13B is located below the Grouse Hollow Mainline Road and includes areas machine piled into windrows, without any burning. Several Douglas-fir seedling stock types were planted in blocks from containerized to 1-0s, 2-0s, 1-1s, plug-1s, and 2-1s (from east to west).



13C is a wet, toe slope location that was planted with a variety of species including Douglas-fir, western redcedar, western hemlock and grand fir.

Finally, 13D represented the case with no site prep, but planting was done through the logging slash. Survival was very poor in this area, so the compartment was treated by machine pile site prep and replanted in 1997 and 1998.

Follow up weed control has been done to each compartment over the years but no other management has occurred.

This former reforestation area has now become a young plantation forest. Once stand closure is achieved the areas will be precommercially thinned and pruned to model a high-yield, intensively managed forest. The rotation for this stand is expected to be about 45 years. The first commercial thinning will be about 2015. Subsequent thinnings will be 2022 and 2030.

Unit #14: Parking Lot and Logging Sports Area (1.3 acres)

This area includes mostly the main demonstration forest parking lot and the border forest areas that are adjacent. To the south of the parking lot is the vocational forestry's logging sports competition area. The management of these areas will focus on the primary requirements of these two uses.

Unit #15: Boomer Hole Rehab Area (0.2 acres)

This small patch is an artifact of a reforestation failure from the early 1980s. Mountain beaver destroyed much of the Douglas-fir planting in this area. When timber harvesting was done in the area in 1997, the decision was made to clean up this area and replant. A mixture of Douglas-fir and western redcedar were planted in 1998. Trapping for mountain beaver control and tubing was done to limit animal damage activity, but heavy damage still occurred. Follow up weed control was done, too, to ensure survival.



Now, nearly 10 years after the harvest and regeneration in the late 90s, a stand is finally becoming established on this site. A final weed release will be done during 2006. No mountain beaver activity has been observed during the past year. Stocking is more than adequate. The stand will continue to grow through stand closure when thinning will begin.

The soils in this unit are Xerochrepts and Haploxeroll (92F) which is deep and well-drained. Well suited timber production soil, but steepness can be problem. This soil is prone to slumping so roads must be located in more gentle areas and have adequate drainage.

Unit #16: Cedar Clearcut & Reforestation (1.9 acres)

This former 60-year old western redcedar stand was clearcut in 1998. At that time there was only a lightly stocked stand that was very limby and growing poorly. As a result, the area was harvested and a new stand established. Intensive site preparation was done using a track-hoe for piling. Piles were burned. The area was planted in 1999 and 2000. Subsequent additional planting was done to fill gaps in the plantation.



Weed control was done to limit the development of big leaf maple sprouts and to limit the spread of blackberries.

The soils in this unit are Xerochrepts and Haploxeroll (92F) which is deep and well-drained. This soil is well suited to timber production, but steepness can be problem. It is prone to slumping so roads must be located in more gentle areas and have adequate drainage. Saum (78E), a deep, well drained soil on steep slopes from 30 to 60% on rolling uplands, is also found in this unit. Steepness of slope is a concern when growing timber. Roads need heavy base.

Unit #17: Sabin-Schellenberg Center Post Rehab (5.3 acres)

The high school vocational forestry students began a logging and rehabilitation project on the Post Property in 2001. The plan was to harvest, clean up, and replant a strip portion of Unit #17 each year over a four to five year period. During 2004, the southern half of the area was harvested and cleared. Planting began in 2005.



This stand was mostly poor quality hardwoods—predominantly alder—and marginal quality Douglas-fir and western redcedar. Eventually, the Post Loop Road will be upgraded for improved access through this portion of the property.

The soils in this unit are Xerochrepts and Haploxeroll (92F) which is deep and well-drained. Well suited timber production soil, but steepness can be problem. This soil is prone to slumping so roads must be located in more gentle areas and have adequate drainage.

Unit #18: Norm's Logging (3.3 acres)

In 1992, neighbors Norm and Nita Post had their back hillside logged. They seemed uninterested in planting new trees, so Sabin Schellenburg Skills Center vocational forestry instructor, Terry Wertz, offered his students' help to plant the area. A Douglas-fir plantation was created using a 10' x 10' spacing or about 400 trees per acre. No weed control was done by the Posts in subsequent years. The vocational forestry students did some follow up weed control in 1993 and 1994 but several areas of non-stocked ground exist in the unit. None-the-less, a stocking survey in 2003 indicated that the majority of the area is adequately stocked and ready to grow on.

Saum (78E) a deep, well drained soil is the primary soil in this unit. It is commonly used for timber production. Steepness of slope is concern when growing timber. Roads need heavy base.

Unit #19: Post Thinning (2.0 acres)

This unmanaged Douglas-fir stand was about 35 years old when it was first thinned in 2004. Poorer quality trees were removed to upgrade the overall timber value of the stand. It is anticipated that this area will be thinned at least two more times prior to clearcut harvesting and regeneration.

Saum (78E) a deep, well drained soil on steep slopes from 30 to 60% on rolling uplands. Commonly used for timber production is the primary soil in this unit. Steepness of slope is concern when growing timber. Roads need heavy base.

Unit #20: Alder Plantation (2.7 acres)

During the summer of 2004, this former mixed conifer and hardwood stand was clearcut and machine prepared for planning in 2005. The stand had few opportunities for thinning to improve growth and volume. Stocking was relatively poor and tree quality was only marginal. The stand had been unmanaged for many years.



The primary soil in this unit Saum (78E) a deep, well drained soil. It is commonly used for timber production. Steepness of slope is a concern when growing timber. Roads need heavy base.



During the fall and winter of 2004 and the summer, fall and winter of 2005, intensive cleanup of this site was undertaken. This included herbicide spraying of the vegetation (grasses, blackberries, and other brush), burning slash piles, and manual brush cutting.

The site is a north and east facing slope. A red alder demonstration plantation was planted in April 2006. About 750 trees per acre were planted using an 8' X 8' grid. The forest will be grown on a 25 to 30 year cycle, including at least one or two commercial thinnings.

Unit #21: Post Home Site (3.1 acres)

This area represents the location for the Post family mobile home that was renovated during the summer of 2004. This renovation included the grounds immediately adjacent to the home. Old buildings were destroyed, trees were cleared and debris and trash removed. The area will be managed as a residential site and someday may become the location for a major educational facility.

The access road to the Demonstration Forest was upgraded to two lanes, new rock base, and improved drainage during 2004. The road provides access to the residence at the Post Home Site as well. Additional drainage management is needed near Hopkins Hall on the Grouse Hollow Road.

Unit #22: Fringe (1.5 acres)

This small stand is adjacent to the entry driveway, just prior to the forest's main entrance sign and gate, on the right. Immediately behind this strip of mostly Douglas-fir timber is the Wills/Van Nice property.

This stand has never been managed. However, a significant portion of it was effected by the right-of-way development for the new driveway road established in the summer of 2004. Thinning will be done to carefully remove poorer quality trees and not influence the stability of the remaining ones.

The soils in this unit are mostly Jory (45 c), which is an ideal tree growing soil; well drained and deep clay loam. Limitations include steep slope and stoniness in surface layer. All weather roads require heavy base rock to prevent sinking.

Unit #23: Noble Fir Bough Orchard (0.3 acres)

This small unit is located north of the Post Home Site adjacent to the Alder Plantation. The orchard will provide greenery for holiday wreaths and swags. About 200 trees were planted in March 2006 on a 5' x 5' spacing. Species included 120 noble fir seedlings from the Hopkins transplant nursery and about 80 incense cedar seedlings donated from Weyerhaeuser Company. Following planting, the area was sprayed with glyphosate using backpack sprayers in late April.



Saum (78E), which is a deep, well drained soil on steep slopes is present in this unit. Commonly used for timber production. Steepness of slope is a concern.

Unit #24: Inside the Switchback (1.3 acres)

The management unit located between Hopkins Trail and the Grouse Hollow Mainline Road includes about 1.6 acres of mixed forest. The predominant species is Douglas-fir, but the age class and tree size distribution is varied. Immediately inside the road switchback, the understory vegetation is kept removed to improve visibility for traffic. Average tree diameter is 18". In addition, there are small patches of conifer reproduction that are now about 20-30 years old. Finally, there is an open, large canopy type with a heavy stand of salal in the understory.

Soils in this unit are composed of Saum (78E) and Jory (45B, C, D), which are well suited to timber production. However, slopes need to be considered when logging. Skid trails should be carefully placed in the more gentle areas and cross drained or outsloped to reduce erosion. Roads need heavy base rock to prevent sinking.

Unit #25: The Hole below the Classroom (0.2 acres)

This poorly stocked brush hole is immediately across the road from Hopkins Hall. Originally this stand was a Douglas-fir plantation established in 1981. However, mountain beavers and competition from brush vegetation deterred the planned stand development. This area will be cleared and replanted to a Douglas-fir and western redcedar forest.

The soils in this unit are mostly Jory (45 c), which is an ideal tree growing soil; well drained and deep clay loam. Limitations include steep slope and stoniness in surface layer. All weather roads require heavy base rock to prevent sinking.

C2. Riparian Inventory

The Hopkins Demonstration Forest includes about 3,000 feet of stream, flowing west from the southeast property corner and following the southern boundary of the farm. The stream is named “Little Buckner Creek.” Little Buckner Creek flows into Buckner Creek which flows into Milk Creek which flows into the Molalla River. The Oregon Department of Forestry has designated the creek as a “Small Fish” for approximately the upper 2100 feet and as a “Medium Fish” for the downstream 900 feet (see map).

The Riparian Management Area (RMA) at the Hopkins Demonstration Forest includes a diversity of tree and shrub species typical of many streamside areas in western Oregon. Briefly, the primary species found throughout the RMA include:

- red alder (*Alnus rubra*)
- bigleaf maple (*Acer macrophyllum*)
- Douglas-fir (*Pseudotsuga menziesii*)
- western redcedar (*Thuja plicata*)

Black cottonwood (*Populus trichocarpa*), western hemlock (*Tsuga heterophylla*), willow (*Salix*), and grand fir (*Abies grandis*) are found too, but are much less common. Besides the species diversity, there are a variety of tree sizes within the Riparian Management Area from sapling and pole sized trees to mature second-growth.

There is common evidence of previous logging throughout the RMA with many large old-growth stumps found following harvesting during the past 50 to 80 years. Little natural regeneration of conifer species has happened over the years, resulting in an alder dominated riparian area throughout much of the area—and dense brush vegetation including invasive plant species like Himalaya and evergreen blackberries..

Throughout the Riparian Management Area there are relatively few sections that meet current basal area target requirements for any harvesting. However, a riparian management plan will be developed during the summer of 2006 identify harvesting and enhancement opportunities. This plan and its accompanying map will become an integral part of the farm’s management plan.

The Riparian Management Area at the Hopkins Demonstration Forest will be managed with the following goals:

- Protect water quality with an emphasis on limiting erosion and sedimentation resulting from any road and trail development, human activity, timber harvesting and forest rehabilitation
- Enhance the aquatic health of the stream resource by careful attention to fish habitat requirements including insect and amphibian ecology, while developing a complete stream shading throughout the drainage
- Manage the timber resource following the harvest guidelines of the current Oregon Forest Practices Act with an ultimate area goal of about 75% conifer basal area and 25% hardwoods within the entire RMA
- Eliminate all invasive plant species (i.e., scotch broom, Himalaya and evergreen blackberries and others) and convert all portions of the RMA that are “unstocked” with trees to hardwood and conifer species

Table follows on next page...

Table 7. Riparian Unit Descriptions

Riparian Type #	Acres	Resource Description
10A	1.5	Riparian area along east boundary on Post Property, located between Post Loop road and property line. Currently mostly brush and few scattered hardwoods. No commercial value. Significant stream resource here with no protection and adjacent to two beaver ponds on neighbor's property. <i>Stream length within this unit: None.</i>
10B	2.5	Mixed older stand of hardwoods and conifer. Most common species are red alder and western redcedar. Mix includes cedar trees up to about 30? inches dbh. Stand is fairly well stocked. A Young planting of Douglas-fir was established in the early 1980s adjacent to Up Creek Road. <i>Stream length within this unit: 550'.</i>
10C	2.0	Unit includes scattered remnant trees and mostly brush fields (between Up Creek Road and the stream) and dense overstocked conifer stands on the upper bank (between stream and property boundary to the south. <i>Stream length within this unit: 280'.</i>
10D	1.6	The management unit is immediately downstream from the demonstration Vented Ford. A young plantation of Douglas-fir was established in the early 1980s adjacent to Up Creek Road. Few other conifers exist in the unit. Instead, the area includes mostly brush and hardwood trees. <i>Stream length within this unit: 300'.</i>
10E	1.5	This narrow unit includes an old historic road through a bottom bordered by steep slopes on both sides. As a result, this area is only 75-100' wide in some places. Much of the area is non-stocked with trees. However, dense shrub vegetation of salmonberry, blackberry and scotch broom provides most of the shade for the stream. <i>Stream length unit this unit: 700'.</i>
10F	1.6	Predominant vegetation in this unit is western redcedar. In fact, the eastern one-half of the unit includes one of the finest older cedar stands on the demonstration forest. Unit #15 is a small type island within this management area, too. <i>Stream length within this unit: 400'.</i>
10G	4.4	The broad bottomland forest includes mostly older alder, maple and shrub vegetation. The condition of the trees in this management unit is generally poor quality for timber production. Throughout the unit, the stream meanders as it moves downstream. Past history of activity within the area indicates previous logging and natural regeneration with hardwoods and brush. <i>Stream length within this unit: 900'.</i>
Total	15.1	

C3. Streams Inventory

Append your streams inventory summary sheets here.

Little Buckner Creek is the only significant stream on the Hopkins Demonstration Forest. The stream includes about 3500 feet of distance along the southern boundary of the property. A riparian management plan will be written for the streamside forest resource during 2006.

In 2003 a stream inventory was conducted by Donal Wilkinson, a home-school charter school science teacher in Oregon City. Donal gathered a wide variety of data on the stream from hydrologic functions of the creek and water quality to vegetative descriptions. Donal's work did not include any data collection from the beaver ponds area adjacent to the Post property tract.

The stream inventory identified the significant stream reaches within the property. All pools, riffles and rapids were located. The inventory conclusions include:

- Little Buckner Creek is a complex stream with a variety of pools and habitat for aquatics and amphibians
- significant and adequate amounts of woody debris are present in the stream channel
- meandering stream reaches and incised canyons exist within the stream profile
- bank conditions are stable and well protected by existing vegetation
- streamside vegetation of trees and shrubs provide adequate shade cover to control summer stream temperatures

C4. Roads Inventory

The Hopkins Demonstration Forest includes one all-weather road running generally east → west, across the property. About 4,000 feet long, the road features a rock base that is capped with $\frac{3}{4}$ minus crushed gravel. The road is located in a hillside position on the landscape and includes sections that are ditched and drained with culverts, plus other sections where drainage is provided by outsloping. The road, culverts and drainage is monitored regularly to ensure proper functioning.

In addition, about 5,000 feet of summer-only road is present on the property. Low Gear Road provides access across the northern portion of the large clearcut located in the western section of the tree farm.

The Creek Road system goes Up Creek and Down Creek along—and sometimes within—the Riparian Management Area. The location of this road goes back several decades and was upgraded in 1997 to provide improved access in the southern part of the tree farm. An unimproved road loops through the 10-acre section of the Post Property that exists down over the hill from the residence. The road eventually loops back to join with the Up Creek Road at the Carlson Loop.

The most recent road additions and improvements occurred after the acquisition of the Post Property. A significant upgrade to the entrance road to the property was undertaken in the summer of 2004 when a two-lane road was constructed. This work included widening, resloping the cutbank, ditching and culverts for drainage, plus base rock and surface gravel.

Finally, a designated skid road system was developed within the Uneven Age Management Unit (#1) during the past several years. Although these roads are used primarily for timber harvesting activities, they also provide access for recreational users too. The roads are water-barred to control drainage and erosion.

A detailed road survey was completed to identify any road-related issues and areas of concern. Also, the survey provided the opportunity to identify all points of interest within the road system and serves as the basis for road monitoring. The survey is included in the Appendix titled, "Road Hazard Inventory, 1998. German forestry student intern, Karsten Shulz, performed the inventory. All of the high priority needs identified in the survey were resolved within the first two years.

C5. Soils Inventory

The soil resource at the Hopkins Demonstration Forest is a combination of relatively thin and skeletal, hillside soils. On the upper slopes, rock outcrops are common. Since the most common site aspects on the property are south and west facing slopes, an interesting mix of not-so-common tree species and vegetative communities exist on the land. Perhaps of most interest is the presence of Pacific madrone (*Arbutus menziesii*) mixed with Douglas-fir and western redcedar. The ecological association is not generally seen this far north in the Willamette Valley. Table 8 identifies the most common soil type found at the Hopkins Demonstration Forest.

Table 8. Forest Soil Types

Soil Type	Acres	Site Index	Comments including drainage, road development, limitations, etc.
Jory (45B, C, D)	27	155 (III+)	Ideal tree growing soil; well drained and deep clay loam. Limitations include steep slope and stoniness in surface layer. All weather roads require heavy base rock to prevent sinking.
Saum (78E)	35	135 (III-)	Deep, well drained soil on steep slopes from 30 to 60% on rolling uplands. Commonly used for timber production. Steepness of slope is concern when growing timber. Roads need heavy base.
Woodburn (91B)	8	169 (II)	Deep, moderately well drained soil. Very productive, but can be limited by wetness. All work must be done during dry summer months to prevent excessive compaction.
Xerochrepts and Haploxeroll (92F)	50	140 (III)	Found on terrace escarpments and steeper ground from 20-60%. Soil is deep and well-drained. Timber production soil, but steepness can be problem. Soil is prone to slumping so roads must be located in more gentle areas and have adequate drainage.

Significant Soil –Related Factors Influencing Forest Management at the Hopkins Demonstration Forest

- One rotational failure exists in the northwest corner of the Management Unit #1 along the upslope bank of the summer access road. The upslope bank of the road cut was reshaped in 1995 when drainage improvements using a ditch and culvert were installed.
- Severe erosion and downcutting is currently active in the western portion of the Management Unit #2 along the Low Gear Road. The problem first began to develop in the late 1990s. Apparently, there is internal water movement through the hillslope above the failure. Efforts to change the overland drainage flow will be implemented during 2006.
- A small wetland (about 0.5 acre) is present in the southwest corner of the Management Unit #4. The area was originally planted with Douglas-fir seedlings in the 1980s. Today, there are only a few trees surviving on this very wet site. Plans exist to restock this area using wet-site tree species like western redcedar, grand fir, or ponderosa pine.
- All harvest activities are scheduled for dry summer months, generally June through October. Designated skid trails will be utilized in all management units where multiple entry activities are planned too. These techniques are used to minimize soil compaction and the potential for erosion.

C6. Wildlife Inventory

Wildlife at the Hopkins Demonstration Forest may be classified as big game, fur-bearing, non-game mammals, reptiles, amphibians, fish, upland game birds, waterfowl, and songbirds. In some cases, these species may be absent at Hopkins, but the habitat is present and these species are found elsewhere in the Willamette Valley.

Big Game, Fur-Bearer, and Non-Game mammals that may be found at Hopkins Memorial Tree Farm:

Elk (Wapiti)	<i>Cervus elaphus</i>
Black Tail Deer	<i>Odocoileus columbiana</i>
Coyote	<i>Procyon lotor</i>
Opossum	<i>Didelphis virginiana</i>
Western Spotted Skunk (Civet Cat)	<i>Spilogale gracilis</i>
Striped Skunk	<i>Mephitis mephitis</i>
Porcupine	<i>Erethizon dorsatum</i>
Mountain Cottontail	<i>Sylvilagus nuttallii</i>
Mountain Beaver (Boomer)	<i>Aplodontia rufa</i>
Bushy-Tailed Wood Rat	<i>Neotoma cinerea</i>
Northern Pocket Gopher	<i>Thomomys talpoides</i>
Northern Flying Squirrel	<i>Glaucomys sabrinus</i>
Red Squirrel	<i>Tamiasciurus hudsonicus</i>
Western Gray Squirrel	<i>Sciurus griseus</i>
Meadow Vole	<i>Microtus pennsylvanicus</i>
Deer Mouse	<i>Peromyscus maniculatus</i>
Pacific Jumping Mouse	<i>Zapus trinotatus</i>
Dusky Shrew	<i>Sorex monticolus</i>

Little Brown Bat
 Big Brown Bat
 Silver-Haired Bat
 Black Bear
 Mountain Lion (Cougar)
 Bob Cat (Wild Cat)
 Fisher
 Marten
 Long-Tailed Weasel
 Beaver

Myotis lucifugus
Eptesicus fuscus
Lasionmycteris noctivagans
Ursus americanus
Felis concolor
Lynx rufus
Martes pennanti
Martes americana
Mustela frenata
Castor canadensis



Species common to Hopkins n Demonstration Forest riparian zones and wetland pockets include the following reptiles, amphibians, and fish:

Racer Snake
 Common Garter Snake
 Rubber Boa
 Long-Toed Salamander
 Pacific Giant Salamander
 Rough-Skinned Newt
 Pacific Newt
 Western Toad
 Pacific Tree Frog
 Bull Frog
 Crayfish
 Cutthroat Trout
 Sculpin

Coluber constrictor
Thamnophis sirtalis
Charina bottae
Ambystoma macrodactylum
Dicamptodon ensatus
Taricha granulosa
Var. Taricha species
Bufo boreas
Hyla regilla
Rana catesbeiana
Var. Pacifastacus species
Oncorhynchus clarki
Var. Cottus species



More people than ever are watching birds. Visitors to Hopkins Demonstration Forest wish to experience bird watching in a meaningful outdoor setting that reflects the importance of the natural world. Bird populations are important indicators of the general health of a given environment. The Hopkins Demonstration Forest provides dense stands of second growth forest as well as extensive brush land areas for habitat. The riparian zone that meanders through the tree farm and the wetland pocket areas provide habitat that gives shelter and food for those bird species that thrive in a more open environment. By providing a diversity of habitats throughout the tree farm, bird populations grow and species diversity is increased.

Many bird species at the tree farm are migratory, while other species may be seen throughout the year. Visitors to Hopkins Demonstration Forest may see rare species because of its undeveloped nature and location near migratory flyways.

The following bird species may be observed at various times at Hopkins Demonstration Forest:

Great Blue Heron	<i>Ardea herodias</i>
Turkey Vulture	<i>Cathartes aura</i>
Canada Goose	<i>Branta canadensis</i>
Mallard	<i>Anas platyrhynchos</i>
Cooper's Hawk	<i>Accipiter cooperii</i>
Northern Goshawk	<i>Accipiter gentilis</i>
Red-tailed Hawk	<i>Buteo jamaicensis</i>
Sharp-Shinned Hawk	<i>Accipiter striatus</i>
American Kestrel	<i>Falco sparverius</i>
Ruffed Grouse	<i>Bonasa umbellus</i>
Northern Bobwhite	<i>Colinus virginianus</i>
California Quail	<i>Callipepla californica</i>
Killdeer	<i>Charadrius vociferus</i>
Band-tailed Pigeon	<i>Columbia fasciata</i>
Mourning Dove	<i>Zenaida macroura</i>
Western Screech Owl	<i>Otus kennicottii</i>
Great Horned Owl	<i>Bubo virginianus</i>
Northern Pygmy-Owl	<i>Glaucidium gnoma</i>
Barred Owl	<i>Strix avaria</i>
Northern Saw-Whet Owl	<i>Aegolius acadicus</i>
Common Night Hawk	<i>Chordeiles minor</i>
Vaux's Swift	<i>Chaetura vauxi</i>
Rufous Hummingbird	<i>Selasphorus rufus</i>
Allen's Hummingbird	<i>Selasphorus sasin</i>
Belted Kingfisher	<i>Ceryle alcyon</i>
Lewis' Woodpecker	<i>Melanerpes lewis</i>
Red-Breasted Sapsucker	<i>Sphyrapicus ruber</i>
Downy Woodpecker	<i>Picoides pubescens</i>
Hairy Woodpecker	<i>Picoides villosus</i>
Northern Flicker	<i>Colaptes auratus</i>
Pileated Woodpecker	<i>Dryocopus pileatus</i>
Steller's Jay	<i>Cyanocitta stelleri</i>
Grey Jay	<i>Perisoreus canadensis</i>
Clark's Nutcracker	<i>Nucifraga columbiana</i>
American Crow	<i>Corvus brachyrhynchos</i>
Common Raven	<i>Corvus corax</i>
Tree Swallow	<i>Tachycineta</i>
Barn Swallow	<i>Hirundo rustica</i>
Winter Wren	<i>Troglodytes troglodytes</i>
Golden-Crowned Kinglet	<i>Regulus satrapa</i>
Ruby-Crowned Kinglet	<i>Regulus calendula</i>



Western Bluebird
 American Robin
 Song Sparrow
 Dark-Eyed Junco (Oregon Race)
 Evening Grosbeak
 Varied Thrush
 Pacific Slope Flycatcher
 Hutton's Vireo
 Bewick's Wren
 Lesser Goldfinch
 American Goldfinch

Sialia mexicana
Turdus migratorius
Melospiza melodia
Carduelis pinus
Coccothraustes vespertinus
Lxoreus naevius
Empidonax difficilis
Vireo huttoni
Thryomanes bewickii
Carduelis psaltria
Carduelis tristis

D. Implications & Opportunities

D1. Soils

Management Opportunities/Actions

There are four distinct soils groups on the farm. They are all well-suited to timber production. The official descriptions are shown in Table 9. Specific limitations for these soils are:

Table 9. Soil Limitations

Jory (45 B,C,D)	All weather roads require heavy base rock to prevent sinking.
Saum (78E)	Roads need heavy base.
Woodburn (91B)	All work must be done during dry summer months to prevent excessive compaction.
Xerochrepts and Haploxeroll (92F)	Soil is prone to slumping so roads must be located in more gentle areas and have adequate drainage.

Nonetheless, soil-related concerns at the Hopkins Demonstration Forest generally result due to local landscape and site conditions. Local wet hill-side seeps can limit reforestation and timber management opportunities. Careful attention to appropriate tree and vegetation selection needs to match with soil conditions.

D2. Timber & Associated Vegetation

The Hopkins Demonstration Forest is well-forested with approximately two-thirds of the property in some level of active management for the production of timber. In addition, several other areas are available for management but have not be accessed yet. The property's growth potential is estimated to be about 50,000 board feet per year based on current stand ages and growth rates.

Table 10. Stand Ages and Volumes

Stand # or ID	Stand Name	Acres	Major Tree Species	Age	Total Volume
1	UEMA	17.7	DF	74	416,900
2	Thinning and Pruning Research Area	23.2	DF	29	393,936
5	Upland Hillside Forest	13.4	DF WRC	66	407,494
6	No Man's Land	4.4	DF	45	22,000
7	Alder Forest	3.8	RA	45	24,700
8	In and Around the Ponds	4.0	WRC/DF	60	103,200
9	Below the Mainline Forest	11.0	WRC/DF	66	305,800
13	Margaret's Clearcut	15.6	DF/WRC	14	NA

The future potential for the Hopkins Demonstration Forest to produce timber harvest volume will come from young, vigorously growing plantations. Management Unit #2, planted in 1977 and Management Unit #13 are large areas that will produce significant harvest volume in years to come. Unit #2 is about 24 acres and Unit #13 is about 15 acres.

Table 11 provides a projection of the volume production potential for these stands based on local experience on similar site quality land.

Table 11. Model Douglas-fir Plantation Forest Projections

Age	DBH (")	Trees per Acre	Trees Harvested	Volume/Ac Harvested
22 (Thinning)	8"	325	100	3,000
30 (Thinning)	12"	225	75	5,000
38 (Thinning)	16"	150	30	9,000
46 (Thinning)	20"	120	30	12,000
54 (Thinning)	24"	90	30	18,000
60 (Final Harvest)	26"	60	60	42,000
Summary Totals:				89,000

Invasive species and noxious weeds; management opportunities/actions

Himalaya and evergreen blackberry and scotch broom are constant irritants and are actively attacked. Poison oak is also present and has been attacked for the last 15 years. It still can be found. A vigilant program is continuing through the summer months when visitor use is the highest. A GPS inventory will be conducted to pinpoint infestation locations.

Known areas of significant poison oak infestation include the Logging Sports Area, Type 5 (Upland Hillside Forest), Type 1 (UEMA) and Type 13 (Margaret's clear cut).

D3. Water

Management Opportunities/Actions

Several key water resource features exist at the Hopkins Demonstration Forest. First, the 3000+ feet of stream provides critical habitat for wildlife, amphibians, fish, and insects. Little Buckner Creek includes designation as a small fish stream in the upper reaches and a medium fish stream in the lower reaches. Active timber harvesting will be pursued where currently possible within the guidelines of the Oregon Forest Practices Act.

Also, a series of riparian management demonstration areas will be established along Little Buckner Creek to provide options for management on family forest properties.

Two old fire-chance ponds were created by Howard Hopkins in the early 1960s. These ponds will need attention in the coming years if the ponds are going to continue to be open water sources. Gradually the ponds are eutrophing and gradually filling in. Also, the ponds are useless for fire control.

D4. Wildlife & Habitat

Wildlife Management Goals

- Provide watchable wildlife opportunities for visitors to the tree farm
- Partner with groups such as school science classes, teachers doing continuing education, the Audubon Society, and Scouts who could use the tree farm for wildlife watching and study; these groups could learn wildlife survey methods and perform surveys to verify which species and habitats are present
- Continue to improve wildlife habitat and feature wildlife habitat improvement demonstration project
- Plan and implement timber management projects that demonstrate to small woodland owners the opportunity to enhance both wildlife populations and timber revenue
- Add or delete to the list of species found on the tree farm as surveys are completed
- Recruit interns from local high schools and Colleges to do wildlife projects and conduct field surveys

Priorities for Wildlife Habitat Management

Like many parcels of land in western Oregon, the Hopkins Demonstration Forest contains second growth forests in several stages of development. These forests are often deficient in some of the different habitats required by the more than 400 species of forest-dependent wildlife that occur in the Pacific Northwest. Wildlife Habitat Improvement Demonstration Areas will be identified for the tree farm. The following wildlife habitat priorities provide the foundation for managing this important resource on the tree farm.

Dead Trees and Down Logs. When it was established, the Hopkins Demonstration Forest was missing older forest habitat. Older forest habitat would include snags that are important for many wildlife species found at the tree farm. Bird boxes, bat boxes and snags have been created and placed throughout the tree farm to help fill this void. The phrase, “there is a lot of life left in that dead tree or down log” is so true at the Hopkins Demonstration Forest. Downed logs have been left in recently harvested areas as legacies to provide habitat for rodents, insects and other species that find food and shelter in down wood. Rodents and insects using the old wood will spread important fungi into the root zones of the new forest. Logs have also been placed in streams to provide habitat for fish and other aquatic species.

Edge Areas. By harvesting trees in small irregularly-shaped harvest units, edge areas that are very active biologically, have been created to improve habitat conditions for many species that require denser cover for shelter and more open forage areas where sun-loving plants grow.

Understory and Brush Cover. Understory and brush are important for food, shelter and cover to well over 100 species of wildlife. Most of these plants are shade tolerant. At the Hopkins Demonstration Forest, plants that produce “mast” including berries, fruits and nuts are protected during timber harvest and other activities. Crab apples have been planted around the tree farm to improve habitat for various bird species.

Springs and Seeps. There are numerous seeps and springs at the Hopkins Demonstration Forest. They function as amphibian breeding pools, drinking water and as a source of forage and hiding cover around the wetted perimeters. These areas have been protected from machinery and cared for by eliminating noxious weeds.

Timber Sale and Road Design. Roads and timber sale operations have been designed to minimize impact to wildlife. Examples include installing culverts to improve drainage of water from roads and reduce erosion and sediment into riparian areas and putting roads to bed after harvest activities to reduce disturbance and erosion. Some old roads and landing areas have been seeded with grass to provide forage for wildlife and to reduce erosion. Some recent thinning projects have been designed to create a more layered forest canopy and to aid in the development some elements of older forest structure to add those habitat elements to the forest landscape. Reforestation efforts may at times require measures to control damage to tree seedlings by wildlife such as installing rigid plastic tubes around seedlings to protect them from browsing by deer and elk. Mountain beaver are trapped, where necessary to reduce clipping damage to seedlings.

Wildlife Habitat Improvement Projects

Several wildlife habitat improvement projects have been undertaken at the tree farm during the past 10 years. The goal for 2008 is to develop a Wildlife Habitat Map with the following items located.

- Establishment of approximately 30 upland songbird nesting boxes. Initially constructed and located in 1995 to provide nesting habitat for western bluebirds, the first group of about 15 boxes were located in the 1990 clearcut and reforestation area (Unit # 13). The boxes were constructed by Binnsmead Middle School. The school students located the boxes, too. Each year since 1995, the school has sent classes to the tree farm to inventory the boxes and bird usage. Additional boxes were located in Unit # 2D and continue to be monitored.
- Planting of seven groups of wild crabapples and the ornamental, Autumn Glow. The plantings include two to four trees in each group. All trees were caged with chicken wire to prevent animal damage. Trees were planted in 1995 and 1996. The plantings were designed to provide late winter food for upland game and songbirds.
- About 25 wildlife trees have been permanently designated on the tree farm over the years. Metal diamond shaped tags are attached to the trees. These trees have been selected for their current and/or potential habitat for wildlife. Examples include multi-topped cedar trees, dead or dying trees within the forest, old snags in various stages of decay.
- Maintenance of two ponds for wildlife use. Howard Hopkins built these ponds for fire protection in 1962. Both have slowly begun to fill in with sediment over the years. Two wood duck boxes were built and located about 10 years ago. At least one family of wood ducks has inhabited the boxes and raised their brood. A wildlife viewing blind was established on one of the ponds for recreational use.
- Students in the Sabin-Schellenberg Skill Center's vocational forestry program created a reptile sunning area in 2000 that includes a rock pile for reptiles and snakes.

Management Opportunities/Actions

1. Continue monitoring the bird boxes on the property. Provide needed maintenance, relocate boxes as needed, and add new boxes to appropriate locations. Maintain data records.
2. Maintain the presence of an understory of hazelnut in forest plantations throughout the farm. Plant as needed. Hazelnut is a preferred food source for grouse. We'd like to provide significant habitat for this species.
3. Provide deer browsing protection to newly planted tree seedlings by tubing following planting. Priority will be given to western redcedar seedlings for protection.
4. Trap mountain beaver wherever possible.
5. Increase the number of designated wildlife trees throughout the farm. The goal is to have two trees per acre marked on the farm. This goal should be reached by 2010.

D5. Fish & Habitat

Management Opportunities/Actions

Complete stream inventory that was initiated in 2003 with an Oregon Teacher on Summer Assignment (ORTOSA) intern to develop appropriate actions. This initial survey and work needs to be completed and implemented on the ground. Opportunities exist for pool and riffle development in the stream with log structures and sills.

D6. Threatened & Endangered Species

Management Opportunities/Actions

No threatened &/or endangered species have been identified on the property

D7. Forest Health

Management Opportunities/Actions

There are no significant insect problems on the property. However, scattered pockets of root disease (mostly *Phellinus*) can be found. Currently those locations are not mapped or noted in management plan documents. This could be done by 2008.

In 1998 a forest health improvement cut was made in Type 9A which removed infected Douglas-fir. Similar harvests/sanitation cuts will be made as conditions warrant. By 2009 a detailed map of known locations of disease will be developed.

D8. Agroforestry, Other Products & Crops

Management Opportunities/Actions

A noble fir/incense cedar bough orchard was established in Unit 23 to provide greenery for holiday decorations. In addition, a second bough orchard is being considered for Type 25.

D9. Archeological & Cultural Resources

Management Opportunities/Actions

No archeological or cultural sites are known at this time. A few springboard stumps still can be found. Most are quite soft and are continuing to deteriorate. No plans are being made to preserve these.

D10. Recreation

Management Opportunities/Actions

The most significant concentrated recreation area is the Cedar Grove Shelter and Amphitheater. Maintenance of the existing facilities will be a high priority in the coming years. The potable water well site will continue to be monitored for water quality. The development of low impact overnight camping opportunities in this area is being considered and we have had discussions with several Boy Scout groups about this potential.

But, probably the most significant recreation resource on the property is our network of trails. Currently we have approximately three miles of trails and about the same distance of low grade truck roads that are used for hiking. Foot traffic access is now possible to about 85 percent of the property and most of the management unit. The only area lacking access is land on the south side of the property across the vented ford. Plans include trail development across Little Buckner Creek within the next two to five years.

D11. Aesthetic/Scenic

Management Opportunities/Actions

A diverse array of habitats at the Hopkins Demonstration Forest has resulted through the mix of management practices on the property. Some viewpoints have been created and additional opportunities identified.

D12. Fire

Management Opportunities/Actions

The following actions have been identified to help prevent wildfires

- fire prevention education in conjunction with ODF
- posting of fire safety signs during fire seasons
- possible closure of the tree farm to the public during periods of extreme fire danger
- improving road fire break effectiveness; pruning to 15' minimum adjacent to roads, especially on downhill sides (higher pruning heights were slopes are > 20%), removal of ground vegetation on downhill and uphill sides of roads within 20-30', special attention to cold/water draws for intense fire movement, removal of all ground vegetation at road intersections—especially inside curves—to limit fire movement and improve visibility for vehicular traffic
- removal of specific soft snags and stumps that are immediately adjacent to roads and highly traveled routes that are key ignition sources
- day lighting roads, buildings and structures

Fuels

The property contains a wide variety of fuel conditions. Mixed conifer second growth forest describes much of the property managed and owned under Hopkins Demonstration Forest. NFFL fuel models describe fires in these stands as: Slow moving ground fires with low flame heights as the rule, although the fire may encounter heavier fuel concentrations that can cause more active burning with more resistance to control actions. Under severe weather conditions involving high temperatures, low humidities and high winds the fuels support a higher fire hazard. Fire intensity may support crown runs and torching in closed canopy stands.

Fuel treatments used to modify fire intensity and occurrence in this fuel model include:

1. Concentrations of ladder type fuels which would allow transport of fire from the ground to canopy will be mechanically treated to reduce fire severity.
2. Slash burning will be the primary means to reduce fire hazard fuels created by timber harvesting activities. Air quality regulations will be adhered to and managed under the Oregon Smoke Management Program regulated by the Oregon Department of Forestry. Chipping will be done to reduce slash concentrations when air quality and economic considerations need to be addressed.

Location Information

Maps and a property locator sheet for Hopkins Demonstration Forest are attached to separate copies of this plan.

A copy of this Fire Plan will be kept at the Dispatch Center located in the Molalla Office of the North Cascade District, Oregon Department of Forestry. Portions of this plan will be used to aid in the dispatch of the closest fire fighting resources in case of fire. (See attached maps and location spreadsheet.)

Roads/Access

- No bridges on property.
- Roads and turnarounds will be maintained at logging standards and tree farm tour needs. Both of these activities support wild land fire fighting resources access to the tree farm. Fire fighting apparatus such as a Dozer and lowboy, 1,000 gallon engines and water tenders have full accessibility to the maintained roads on the tree farm.
- Directional signs are clearly visible from public roads.
- Safety Zones and escape routes are established and marked on fire plan maps. Employees are trained to provide for firefighter safety as per Section I of this document.

Water Sources

The Beaver Creek Rural Fire Department on Beaver Creek Road is the closest tanker and tender fill opportunity. There are no nearby helicopter dipping sites.

Two ponds west of the Down Creek Road are possible small tanker fill sites but portable pumps and hoses would be needed to get the water to the roadside.

Landowner Resources

Hopkins Demonstration Forest has only one employee who is trained in the use of hand tools for fire suppression. The tree farm does not own any fire fighting machinery. Any major fire suppression activity is done by ODF and Beaver Creek Rural Fire Department.

Protecting Agency

Oregon Department of Forestry provides fire protection on forest lands managed by Hopkins Demonstration Forest. Their local office can be reached at 503 829-2216. For fire emergencies dial 911.

Beaver Creek Rural Fire Department provides protection to structures and non-forest land. For fire information call 503 742-2610. For fire emergencies dial 911.

Defensible Space

Fuel alterations have been made for defensible space around all improved properties. The alterations include, but are not limited to, fuel modifications in a 100 foot primary zone and a 300 foot secondary zone. Hopkins Demonstration Forest has adopted the “Living with Fire Program” sponsored by ODF and the Pacific Northwest Coordinating Group. (See attached Living with Fire brochure.)

- The fuel modifications have been made to keep flame lengths below one foot in the primary zone along with ladder fuel removal to keep the remaining trees from torching and causing spotting to unaltered fuel beds.
- The purpose of the secondary zone fuel modifications and maintenance is to slow the fires progress and intensity through fuel concentration removals and the pruning and spacing of the live trees left for environmental purposes.
- Most buildings have fire retardant roofing materials. As roofing maintenance becomes necessary fire retardant materials such as composite shingles and metal roofing will be used.
- Where fire poses a risk of spread to buildings, landscape designs next to the homes has been used to reduce the risk of fire. Fire retardant plants have been used in place of flammable plant species. Fire wood storage is away from the homes.
- Each home and building on the property contain a narrative on what to do in case of fire. A map of escape routes and safe areas is included in the narrative. The process “When Wildfire Approaches” from the Living with Fire Brochure was used to develop the home and building plans.

Prevention

Prevention of fires on lands managed by Hopkins Demonstration Forest is a top priority. To ensure adequate prevention measures a comprehensive survey will be conducted in partnership with ODF each year prior to fire season. This survey will include but not be limited to the following:

1. Fire Prevention signs are posted
2. Harvesting operations are identified and receive a pre-season fire prevention inspection
3. Identified water sources identified in section III of this document will be checked to make sure they are still viable water sources
4. Fuel treatment areas and fuel breaks will be inspected and required maintenance work will be scheduled for treatment areas not meeting standards to prevent fires from traveling from public roads and adjacent ownerships.
 - a) a representative from Hopkins Demonstration Forest will attend ODF annual Operators Dinner to gain fire season knowledge and exposure to new prevention rules
 - b) a representative from Hopkins Demonstration Forest and ODF will have periodic contacts, in person or over the telephone to discuss fire danger and preventive actions the farm needs to consider
 - c) burn Permits from ODF or the RFD (Beavercreek Rural Fire Department) will be obtained for fire safety purposes prior to burning any debris on the Tree Farm
 - d) Hopkins Demonstration Forest employees will follow all public use restrictions that are placed upon forest lands as a “Regulated Closure” during the summer fire season months. (See Attachment F Regulated Use example.)
 - e) during lightning storms employees will assist ODF in location of strikes on Hopkins Demonstration Forest properties

D13. Roads & Access

Management Opportunities/Actions

Road inventory has identified several areas of concern and continued maintenance. First, annual additions of crushed rock will be added to sections of the Grouse Hollow Road. Currently, the Creek Road system needs surface rock which will be completed following the 2006 harvest.

Second, the Post Road Loop needs upgrading including base and crushed surface. This road has existed as a summer-only road for many years. We hope to complete this upgrade in the next two or three years.

Third, there is a significant sink hole on the west end of Low Gear Road due to poor drainage. A plan is being developed in 2006 to begin repairing the situation.

Finally, a road system on the south side of Little Buckner Creek is needed to access Type 7 (Alder Forest) and Type 2E. This will include new road pioneering and development. The goal is to have access to this side of the property by 2009.

E. References & Required Statements

E1. Forest Practices Statement

This plan and all management recommendations will comply with the Oregon Forest Practices Rules as administered by the Oregon Department of Forestry. Notifications of forest operations will be obtained more than 15 days before the planned start. In the event that written plans are needed they will be developed in cooperation with the Stewardship Forester. The riparian area has been identified on our Stewardship Plan map and other maps showing the vegetation on the property.

E2. Assistance

OWEB, Stewardship Funds and other sources have been used in the past to implement needed projects. We expect to continue as the need and the opportunities exist.

Technical assistance is provided through the expertise of the Board of Directors of Forests Forever, Ind. The Board currently has six professional foresters, one professional engineer and several experienced woodland owners. In addition, technical advice is provided by the Oregon Department of Forestry staff and Stewardship Foresters, consulting foresters and a CPA.

The Board also includes three natural resource educators who provide oversight and guidance for the education and community outreach activities for the property.

The property also has the benefit of additional professionals who help with a variety of educational and resource activities.

E3. Tax & Business Management

Boundaries

Boundaries are clearly marked and property corners located.

Liability

We are currently investigating additional liability coverage. Presently we have a million dollar liability policy.

Land use

Timber District Rural

Assessment

Forestland SAV

Property tax

Currently under the Small Tract Forest (STF). This category was granted in 2005.

Income tax

As a non-profit corporation this is not an issue.

Other taxes

Beavercreek Rural Fire District and Oregon Forest Protection assessment cover this property.

Estate plan

Since a non-profit corporation owns this property we are required by law to maintain the property in forestry. In the future if this is not possible, we are required to transfer the property to another non-profit body that will.

Records

List types of records kept and physical location of the records.

F. Management Recommendations/Action Plan

F1. Management Actions and Priorities

Key Action Priorities 2006 - 2016

1. Complete RMA demonstration design, layout action on the ground (2006-2013)
2. Complete forest inventory
 - a. Hoppy's Last Stand
 - b. No Man's Land
 - c. Alder Forest
 - d. Edge
 - e. Margaret's Old Clearcut
 - f. Post Reforest
 - g. Norm's Logging
 - h. Post Thinning
 - i. Fringe
 - j. Switch Back
3. Complete wildlife snag assessment
4. Conduct special forest products inventory
5. Locate and design major road access across creek, Alder Forest (7a), Type 2e
6. Identify trail opportunities across creek
7. Develop planting opportunity in one – two acre range each year somewhere on the farm

8. Develop “fix” for drainage problems on west loop of Low Gear Road
9. Develop management plan for Ponds
10. Conduct yearly forest harvests according to schedule outlined in Section F2.

F2. Timber Harvest Schedule, 2006-2020 (15 year forecast)

Table 12. Timber Harvest Schedule 2006-2010

Unit #	Name	2006	2007	2008	2009	2010
1	UEMA	Thinning (east side) 25 MBF				Thinning (west side) 25 MBF
2	Thinning and Pruning Research Area			Thinning (all units) 50 MBF		
3	Maple Forest					
4	Hoppy's Last Stand					
5	Hillside Forest		Thinning 20 MBF			
6	No Man's Land					Harvest 22.5MBF
7	Alder Forest		Harvest 20MBF	Reforest DF & WRC		
8	In & Around Ponds	Thinning 25MBF				
9	Below the Mainline Forest				Thinning (50 MBF)	
10	Riparian Demonstration Area		First unit entry	Second unit entry	Third unit entry	Fourth unit entry
11	Steep Hillside Forest					
12	Hopkins Hall at the Edge					
13	Margaret's Old Clearcut					
14	Parking Lot and LSA					
15	Boomer Hole Rehab					
16	Cedar CC & Reforestation				PCT	

Table continues on next page...

Unit #	Name	2006	2007	2008	2009	2010
17	OSSC Post Rehab					
18	Norm's Logging					
19	Post Thinning					
20	Alder Plantation					
21	Post Home & Building Site					
22	At the Fringe					
23	Bough Orchard					
24	Inside Switchback					
25	Hole					
Summary Harvest Totals:		50,000	40,000	50,000	50,000	47,500

Table 13. Timber Harvest Schedule 2011-2015

Unit #	Name	2011	2012	2013	2014	2015
1	UEMA				Thinning (east side) 25MBF	
2	Thinning and Pruning Research Area					Thinning (½ area) 35MBF
3	Maple Forest					
4	Hoppy's Last Stand	Thinning 3MBF				
5	Hillside Forest					Thinning 20 MBF
6	No Man's Land	Reforest				
7	Alder Forest					
8	In & Around Ponds				Thinning 25MBF	
9	Below the Mainline Forest					
10	Riparian Demonstration Area	Fifth Unit Entry	Sixth Unit Entry	Seventh Unit Entry		
11	Steep Hillside Forest	Thinning 5MBF				
12	Hopkins Hall at the Edge	Thinning 4 MBF				

Table continues on next page...

Unit #	Name	2011	2012	2013	2014	2015
13	Margaret's Old Clearcut	Precommercial thinning and pruning	Pre-commercial thinning and pruning	Pre-commercial thinning and pruning	Pre-commercial thinning and pruning	
14	Parking Lot and LSA					
15	Boomer Hole Rehab					
16	Cedar CC & Reforestation					
17	OSSC Post Rehab					
18	Norm's Logging					
19	Post Thinning		Thinning 10MBF			
20	Alder Plantation					
21	Post Home & Building Site					
22	At the Fringe	Thinning 3 MBF				
23	Bough Orchard					
24	Inside Switchback	Thin – Space 3 MBF				
25	Hole					
Summary Harvest Totals		18,000	10,000	0	50,000	55,000

Table 14. Timber Harvest Schedule 2016-2020

Unit #	Name	2016	2017	2018	2019	2020
1	UEMA			Thinning (west side) 25 MBF		
2	Thinning and Pruning Research Area	Thinning (½ area) 35MBF				
3	Maple Forest					
4	Hoppy's Last Stand				Thinning 5MBF	
5	Hillside Forest					
6	No Man's Land					
7	Alder Forest					
8	In & Around Ponds					

Table continues on next page...

Unit #	Name	2016	2017	2018	2019	2020
9	Below the Mainline Forest		Thinning (50 MBF)			
10	Riparian Demonstration Area		First Unit Reentry	Second Unit Reentry	Third Unit Reentry	Fourth Unit Reentry
11	Steep Hillside Forest				Thinning 5MBF	
12	Hopkins Hall at the Edge					
13	Margaret's Old Clearcut	1 st Commercial Thin; 12MBF (4 acres)	1 st Commercial Thin; 12MBF (4 acres)	1 st Commercial Thin; 12MBF (4 acres)		
14	Parking Lot and LSA					
15	Boomer Hole Rehab					
16	Cedar CC & Reforestation					Thinning 6 MBF
17	OSSC Post Rehab	PCT				
18	Norm's Logging				1 st Commercial Thinning; 12MBF (4 acres)	
19	Post Thinning					Thinning 10MBF
20	Alder Plantation			1 st Thinning; firewood		
21	Post Home & Building Site					
22	At the Fringe					
23	Bough Orchard					
24	Inside Switchback					
25	Hole					
Summary Harvest Totals:		47,000	62,000	37,000	22,000	16,000
All Years Combined Harvest Total, 2006 → 2020: 552,500 BF or 36,833 BF/year						

G. Signature Page

Date of plan _____ June 28, 2006 _____

Landowner name _____ Ken E. Everett, President, Forests Forever, Inc. _____

Landowner signature: _____

Plan writer name _____ Michael C. Bondi _____

Plan writer signature _____

ODF Stewardship Forester _____

* required if plan is to qualify as a Stewardship Plan