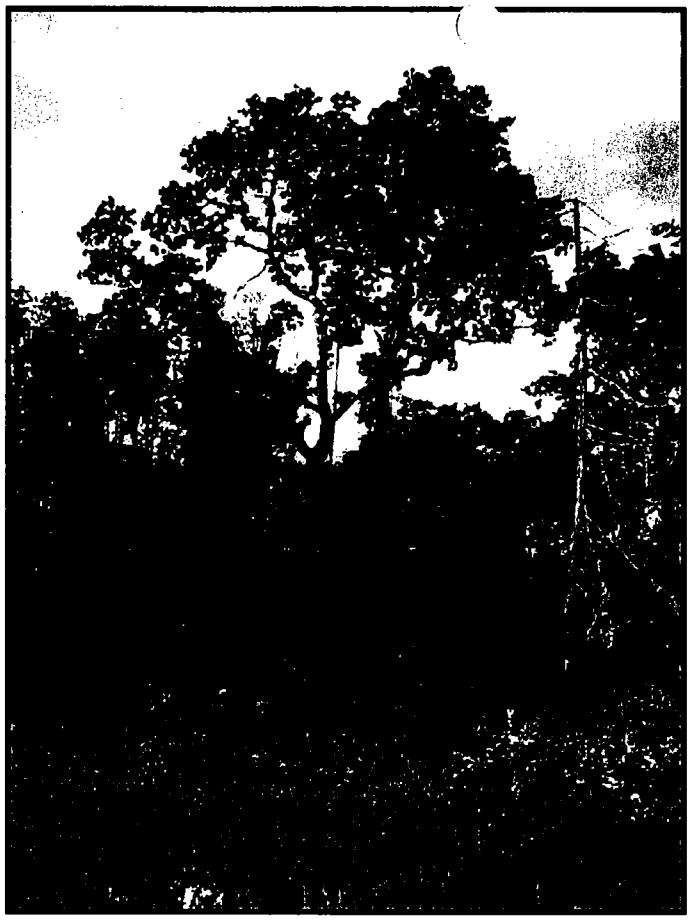
Appendix A

Site Photos

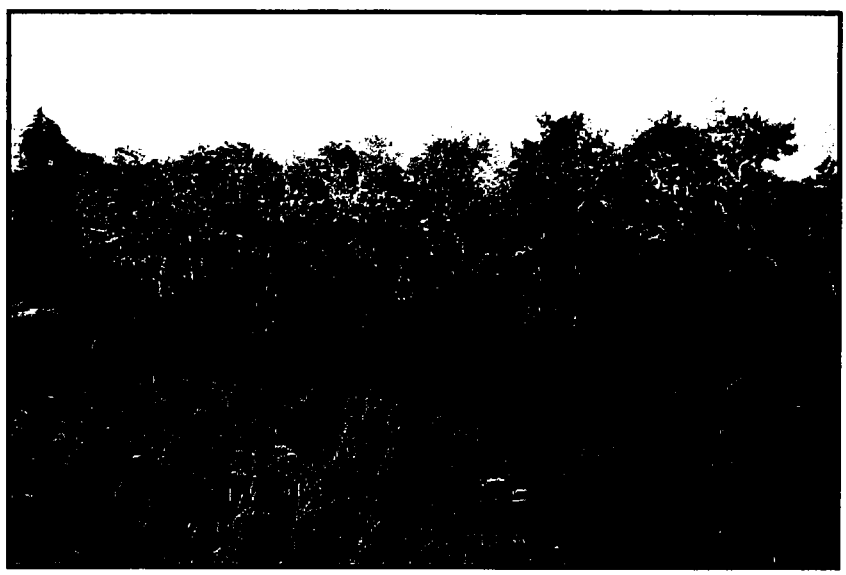
Photos were taken between June and August 2004.



Large oak and pine (remnants from the savanna conditions) are found scattered throughout the site, with concentrations found near the ridgeline parallel to the BPA powerline corridor.

Ponderosa pine (*Pinus ponderosa* var. *ponderosa*) have been planted in the recently logged areas of the site and in many of the meadows.

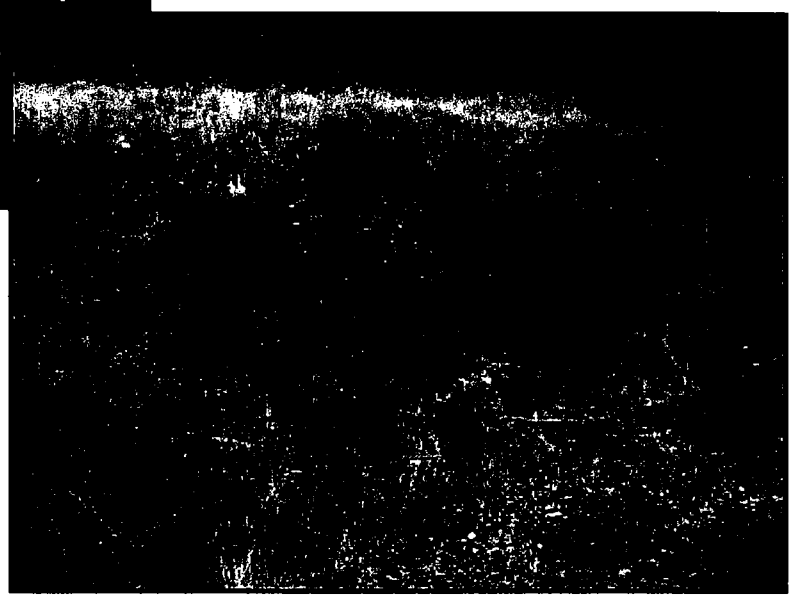
Although non-native grasses and forbs dominate the prairie, native species such as Cat's ear (*Calochortus tolmiei*) are still present.



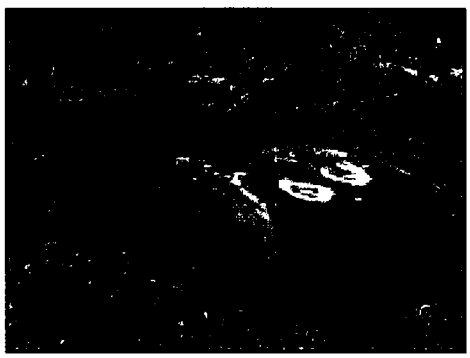
Dense stands of even aged young oak are present in several locations across the site.

Approximately 50 large slash piles line the site's roads.

Erosion along roadside ditch



Abandoned Vehicle



Invasive non-native vegetation such as Scot's broom, Armenian blackberry, and Canadian thistle are common throughout the site. Heavy concentrations of these species exist along the power line corridor, which serves as a seed source for the rest of the site.

Appendix B

Historic Aerial Photos and Historic Vegetation Map

The historic aerial photos in this appendix were included in the narrative of from Rare Plant Survey conducted by Environmental Solutions LLC (June 2004). The historic vegetation map was produced by the City of Eugene based on Government Land Office surveys of the 1850s as interpreted by Christy et al. (1999).

N

FIGURE 9: 1936 Aerial Photo

Scale undetermined
Date:

N

FIGURE 10: 1952 Aerial Photo

Scale undetermined
Date:

N

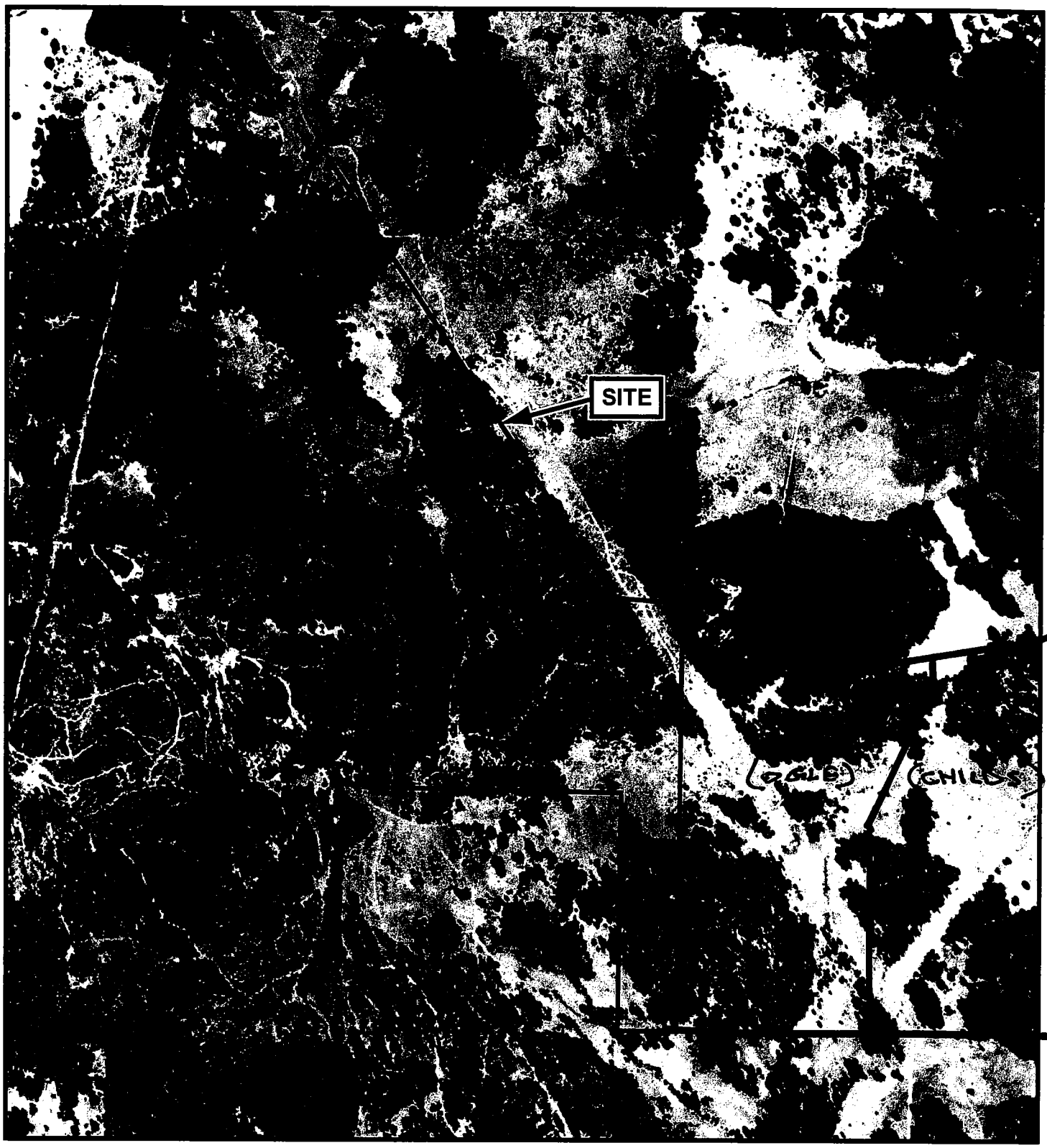
FIGURE 11: 1960 Aerial Photo

Scale undetermined
Date:

N

FIGURE 12: 1968 Aerial Photo

Scale undetermined
Date:



N

FIGURE 13: 1977 Aerial Photo

Scale undetermined
Date:

N

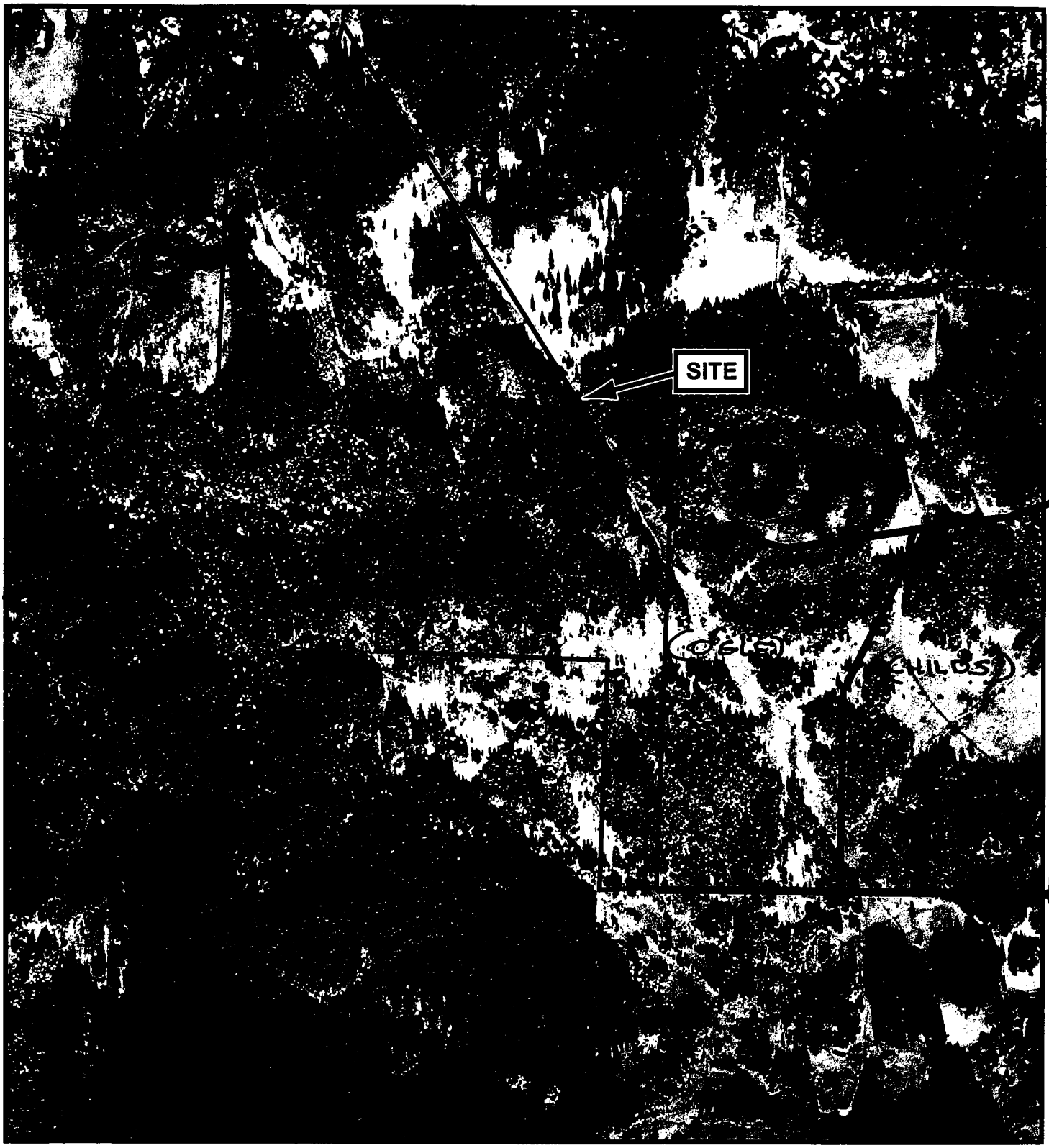
FIGURE 14: 1979 Aerial Photo

Scale undetermined
Date:

N

FIGURE 15: 1990 Aerial Photo

Scale undetermined
Date:



N

FIGURE 16: 1994 Aerial Photo

Scale undetermined
Date:

Historic Vegetation (from City of Eugene Site Resources Map)

- Scattering or thin timbered Douglas-fir/white oak/ponderosa
- Douglas-fir woodland or timber, often with bigleaf maple, alder
- Seasonal wet prairie
- Upland prairie, xeric
- White oak/black oak savanna
- White oak/black oak/Douglas-fir/ponderosa pine savanna
- White oak/black oak/ponderosa pine savanna

- Site Boundary

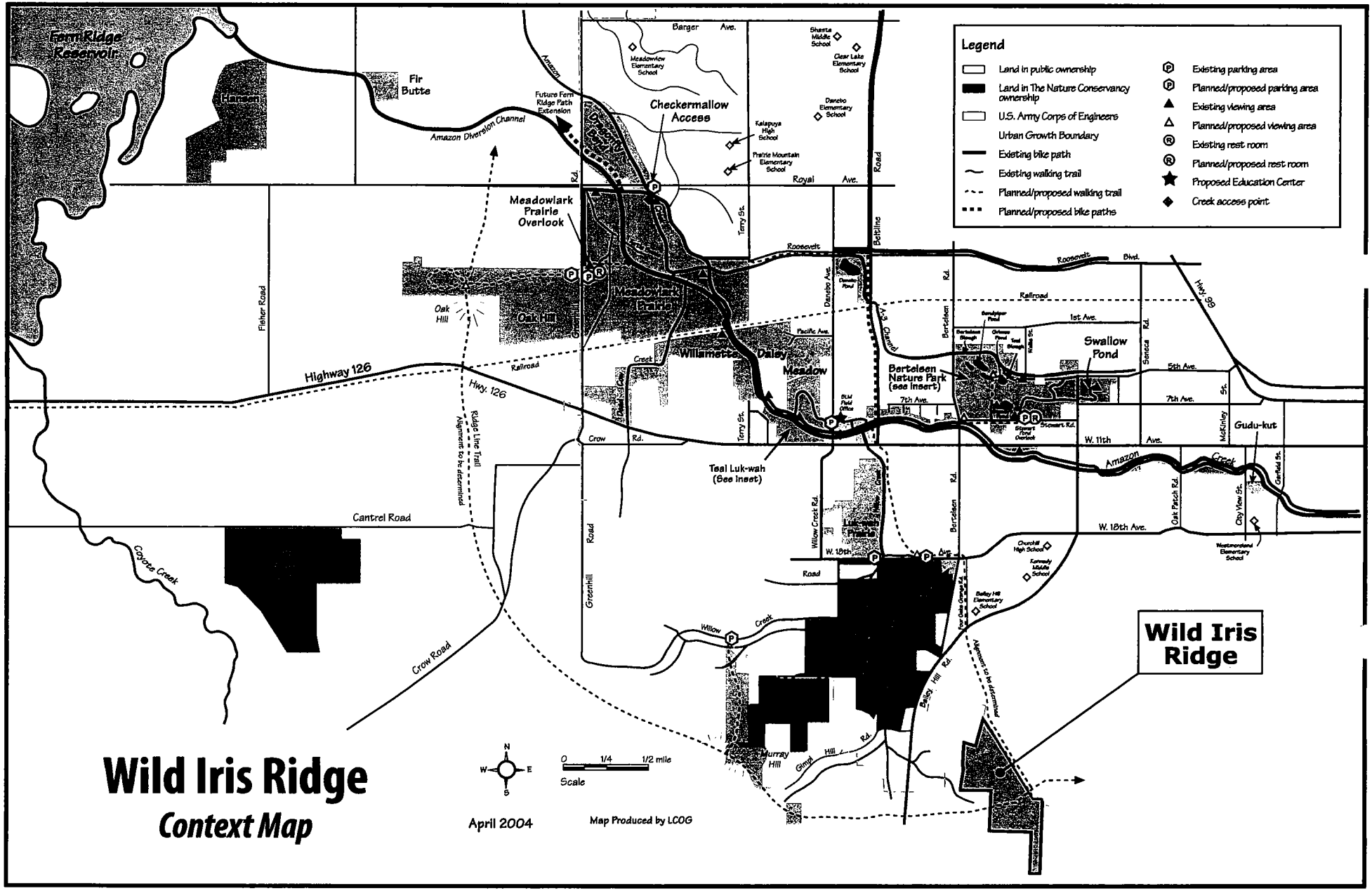
N

FIGURE 17: Historic Vegetation Map

Scale: 1" = 2000'

2000' 0' 2000'

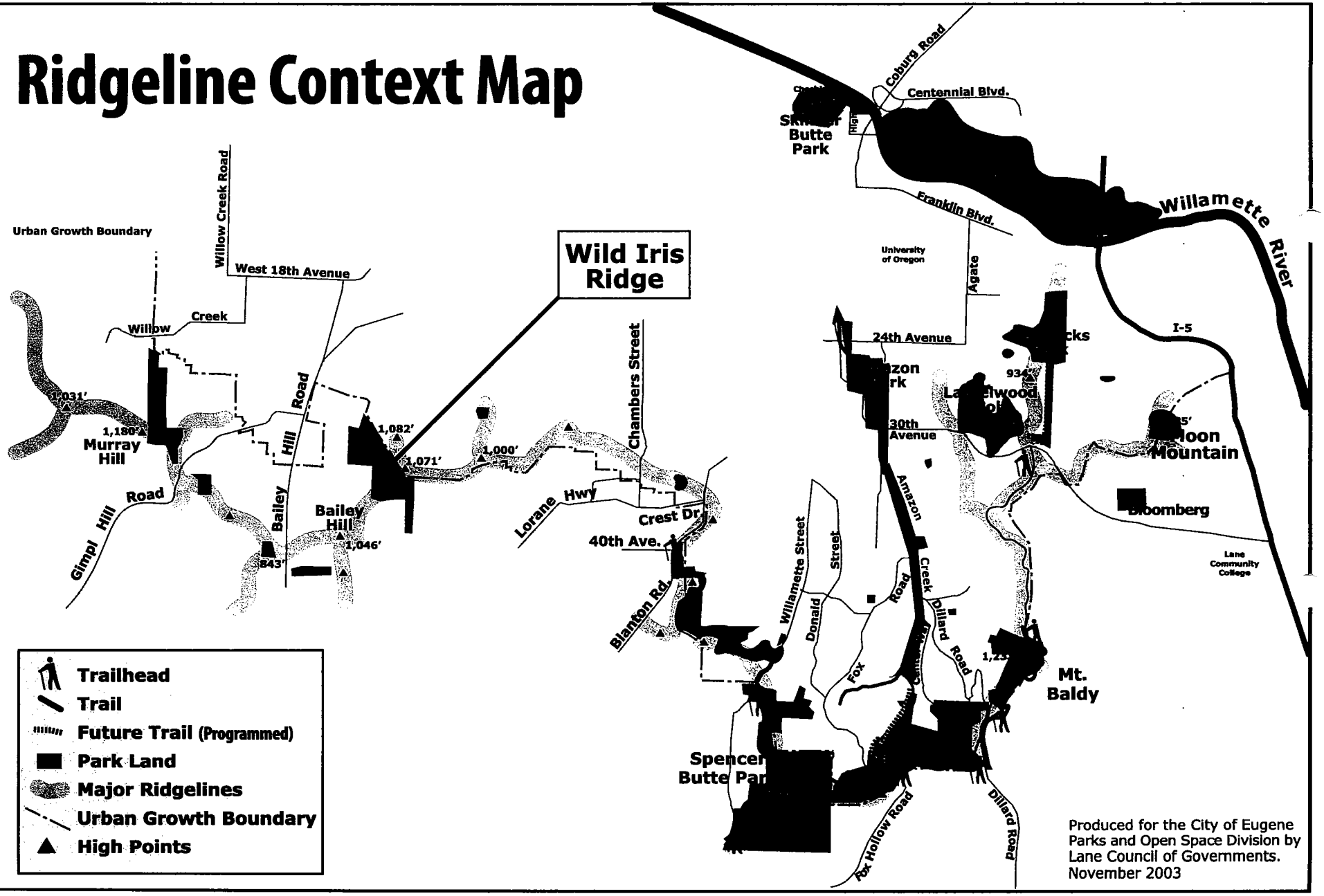
Scale: 1" = 2000'



Wild Iris Ridge

Context Map

Ridgeline Context Map



Produced for the City of Eugene Parks and Open Space Division by Lane Council of Governments. November 2003

Appendix C

Site Context Maps

March 6, 2006

MAR 0 6 2006

TO: **Jerry Kendall, Lane County Land Management**

FROM: **Kathi Wiederhold, Lane Council of Governments**

SUBJECT: **Supplemental Soil Study for 18-04-11, tax lots 303 and 304**

This memo responds to your request that I review the supplemental soils information for PA 05-5985, the Ogle application for Marginal Lands, with particular attention to the findings about the pattern of forest cover related to soil depth. This supplemental soils information was submitted February 17, 2006, by Stephen Caruana of Agronomic Analytics to Jerry Kendall, Land County Land Management Division. The supplemental soils information focuses on identifying the variability of soil depth on the subject property, particularly in the area approximately in the center of the property mapped as 107C Philomath silty clay and 108F Philomath cobbly silty clay soils. The property is located at 18-04-11 tax lots 303 and 304, just south of the urban growth boundary of Eugene, in Lane County. The supplemental soils information consists of: an Executive Summary; a Soil Depth Investigation Report (hereafter called the soil report), which includes documentation of field work conducted in May 2005 and a map of augur holes and backhoe pits; and soil series descriptions. The whole property is 73.7 acres.

Conclusion

The soil report submitted by Stephen Caruana for the subject property focuses on soil depth, primarily of the two Philomath map units, 107C and 108F, on the subject property. The report does not revise the soil map units in the 1987 Soil Survey of Lane County Area, Oregon, USDA-SCS, hereafter called the Soil Survey Report. The soil report does not quantify the acreage where the soil depth exceeds 40 inches in the two Philomath map units nor does the report include productivity information for the deeper soils. Quantitative information about the area and productivity would be needed to use the information in the soil report to apply the productivity test for Marginal Lands.

Pattern of Forest Cover

The soil report concluded (section 5, page 12) "The pattern of forest cover on the property was found to follow closely the presence of deeper soils on the property." The depth of the soils in the 21 augur holes and backhoe pits observed in the soil report fit this pattern about one-third of the time.

The Soil Survey Manual uses 20 inches as dividing point between shallow and deeper soils. Of the 21 augur holes and backhoe pits described in the soil report:

- 11 have soil depth greater than 20 inches and have trees as the predominant vegetation
- 3 have soil depth less than 20 inches and have grass as the predominant vegetation
- 7 do not fit the pattern of trees on deeper soils and grass on shallow soils, i.e. they either have trees on soils shallower than 20 inches or have grass on soils deeper than 20 inches.

Of the 16 augur holes and backhoe pits described in the soil report on the two Philomath map units, 107C and 108F,:

PC #6 -2pg

8 have soil depth greater than 20 inches and have trees as the predominant vegetation
3 have soil depth less than 20 inches and have grass as the predominant vegetation
5 do not fit the pattern of trees on deeper soils and grass on shallow soils, i.e. they either have trees on soils shallower than 20 inches or have grass on soils deeper than 20 inches.

Areas of Deeper Soil Inclusions

The soil report concluded "Significant areas of the soil mapped as Philomath silty clay (107C) exhibit evidence of deeper soil inclusions." (section 5, page 12) and "The areas of slightly better soils can be used for tree production." (section 5, page 13) The soil report does not quantify how many acres of the Philomath 107C (or other map units) consist of deeper soil inclusions that can be used for tree production. The supplemental report from the consulting forester (Forest Productivity and Income Analysis, Supplement to Original Report Date July 7, 2005 submitted February 17, 2006, by Mark Setchko) does not speak to these findings of the soil report.

Depth of Map Units

Table 14 in the soil report lists the published soil depth from the Official Series Description available from NRCS online. This series description covers multiple counties, which are all within Oregon for the soils in Table 14. A more helpful measure of soil depth for the purpose of considering the soil information for this property is the depth range in the map unit description in the Soil Survey Report, which is specific to Lane County. The depth ranges for the soil map units on this property are as follows. For comparison, the soil depth from the Official Series Description is in parenthesis. The point is that there is variability in the depth for a series within a map unit and the NRCS/SCS ratings for that map unit consider that variability.

81D	McDuff clay loam	20-40 inches (37 inches)
102C	Panther silty clay loam	40-60 inches (48 inches)
107C	Philomath silty clay	12-20 inches (14 inches)
108F	Philimath cobbly silty clay	12-20 inches (14 inches)
113E	Ritner cobbly silty clay loam	20-40 inches (32 inches)
113G	Ritner cobbly silty clay loam	20-40 inches (32 inches)

Notes

My review does not evaluate the qualifications of the person submitting the soils report. Stephen Caruana holds a B.S. in Agronomy from Oregon State University (1979) with 15 years of experience with the Natural Resources Conservation Service (formerly the Soil Conservation Service) and another 11 years of experience as a consultant.

My review does not address the acceptability of using a productivity rating of zero for soils that have no NRCS forest productivity rating. This issue falls within the purview of the planning division to determine what is acceptable based on code, procedure, policy, and precedent. The USDA-Natural Resources Conservation Service (NRCS) does not provide a forest productivity rating for all the soil map units within the Lane County soil survey area. NRCS does not report a site index when there is not enough data to calculate a statistically reliable rating, e.g., for soils most commonly used for agriculture rather than forestry and soils with low forest productivity.

KENDALL Jerry

From: Jim Just [goal1@pacifier.com]
Sent: Tuesday, March 07, 2006 10:35 AM
To: KENDALL Jerry
Cc: Jan Wilson; SEGEL Lauri (SMTP)
Subject: Ogle testimony

Jerry,

Attached is the final version of Goal One's supplemental testimony.

I have attached the entirety of the OSU reforestation handbook. For purposes of the record, all that I'm really concerned with is the cover and p. 6, which is the page containing the reference in our testimony.

Please confirm that these items have been entered into the record in this matter.

Thanks for your help.

Jim Just, Executive Director
Goal One Coalition
39625 Almen Drive
Lebanon, OR 97355
phone: 541.258.6074
fax: 541.258.6810
www.goal1.org

Goal One *is* Citizen Involvement

Pc # 7 -13pp.

Lane County Planning Commission
125 E. 8th Avenue
Eugene, OR 97401

March 7, 2006

RE: Ogle-Childs marginal lands application, PA 05-5985; response to new evidence

Dear Members of the Commission,

The Goal One Coalition (Goal One) is a nonprofit organization whose mission is to provide assistance and support to Oregonians in matters affecting their communities. Goal One is appearing in these proceedings at the request of and on behalf of its membership residing in Lane County. This testimony is presented on behalf of Goal One and its membership; LandWatch Lane County, 1192 Lawrence, Eugene OR 97401; LandWatch's membership in Lane County, specifically to include LandWatch President Mona Linstromberg, 87140 Territorial Rd, Veneta OR 97487; and Jim Just, 39625 Almen Drive, Lebanon OR 97355, as an individual.

The purpose of this letter is to respond to new evidence presented at the public hearing held on February 7 and February 21, 2006.

I. Soil Report

At the February 21 hearing an "Ogle Property Soil Report" (Report) was submitted into the record. The Report was prepared by Mr. Stephen Carnuana, an agronomist whose professional experience includes 15 years with NRCS as a Line Officer and a Staff Specialist (Soil Conservationist, District Conservationist, Salmon Recovery Officer) and 11 years as Principal of Agronomic Analytics, a firm which provides consulting services to private and government entities.

Mr. Carnuana performed a field examination of the subject property. The investigation included soil sampling across the property. A total of 20 auger and backhoe pits were dug to a maximum depth of 60 inches or until bedrock was reached.

Sampling was concentrated in areas mapped by the NRCS as containing Philomath soil units. 16 samples were taken in these areas; areas with and without trees were sampled. Four samples were taken in areas with other soils. As the productivity of the Philomath units for ponderosa pine is at issue here, this letter will address only data pertaining to the Philomath soil units.

The Report notes that the published *Soil Survey of Lane County Area, Oregon* (*Soil Survey*) is a 2nd order survey, that insufficient sampling was undertaken to map the soils to the level of a 1st order survey, and that no revisions are made to existing soil map units. The Report concludes that soils conform in general to the mapped data in the published *Soil Survey*; that

soils noted in the field matched; and that texture and stoniness in the field were as reported in the soil survey.

The *Soil Survey* describes all of the Philomath units as typically 14 inches in depth to bedrock. Data in the Report confirms that soils on the subject property are in fact deeper than typical for these units. The 16 sample sites show an average depth of 29.5 inches.

Referring to the 107C Philomath unit, the Report states: "Significant areas of the soil * * * exhibit evidence of deeper soil inclusions. The average depth of soils at the 11 sample sites within this map unit is 34.8 inches. The average depth at the 5 sample sites within the 108F Philomath map unit is 17.8 inches.

The Report contains a conclusion that "[t]he pattern of forest cover on the property was found to follow closely the presence of deeper soils on the property." However, this conclusion is not supported by the data.

Of the 11 sample sites within the area mapped as 107C, seven were forested and four were grass-covered. Three sample sites showed depths of 14 inches; two of these sites were grass-covered, one was forested. One sample site with a soil depth of 40 inches was also grass-covered. This data shows that soils of "typical" depth can and do support tree growth, and that the presence of grass cover is not sufficient to establish that soils are shallow or that trees are incapable of growing in those areas.

The data is similar regarding the 108F unit. The shallowest soil, at sample site AH #E2, was 8 inches. This site was forested. Two sample sites showed the "typical" soil depth of 14 inches: one site was forested, one was grass-covered. This date establishes that shallow soils – even soils shallower than typical for the soil unit – can and do support tree growth.

What is clear from data provided in the *Report* is that Philomath soils on the subject property are deeper than is typical for these soil units, and that these soils – when typical in depth and even when shallower – can and do support timber production. While it may be true that the deeper soils on the subject property are more likely to have been or be forested, this does not establish that the Philomath soils on the subject property are not capable of supporting merchantable tree species, including ponderosa pine, or of being managed for timber production.

Regarding the 108F unit, the *Report* states that it is "unrated for timber production indicating just how poorly suited this soil is for long-term production." It is well established in law that the lack of a rating in the Soil Survey says nothing about potential productivity. The absence of a rating means nothing more than adequate information regarding forest productivity was not available when the forest productivity tables were produced.

The *Report* concludes that the Philomath soil units have limitations for Douglas-fir, including shallow soils, competition from grass, and the hot, dry aspect of the southern slope. Southern slopes are common in forested – every hill or mountain has one. While a southern slope may present management challenges, it does not preclude successfully growing trees. On south-facing slopes, where seedlings may be damaged or killed by intense sunlight and heat, shading

the seedling's lower stem with shade cards (available commercially or homemade) can improve seedling survival.[1]

The data shows that the slopes are in fact deeper than typical. Forest managers manage for grass competition and southern exposures regularly and successfully. Even were the *Report*'s conclusion to be supported by data in the *Report*, the conclusion does not refer or apply to ponderosa pine.

The *Report* confirms the accuracy of NRCS data. It does not provide any data or conclusions that would contradict the published productivity data for the Philomath soil units for ponderosa pine, or the on-site ponderosa pine productivity data for the Philomath soil units on the subject property produced by the applicant's forestry consultant.

The available objective, quantitative data establishes that Philomath soil units, on the subject property as elsewhere, have a 100-year site index for ponderosa pine of at least 104 and a productivity for ponderosa pine of at least 110 cf/ac/yr. Decisions regarding forest productivity must be based on objective measures of productivity rather than subjective, qualitative evaluations. *Wetherell v. Douglas County*, __ Or LUBA __ (LUBA No. 2005-075, 09/30/2005), slip op 10-12.

II. Income test

Mr. Setchko, the applicant's forestry consultant, made several remarks during oral testimony regarding Goal One's calculations of potential average annual gross forest income over the growth cycle. Most of his remarks were predicated on assuming a 50-year growth cycle.

ORS 197.247(1) does not specify a growth cycle to be used. It is clear that the county must assume "reasonable management practices." Such practices would of necessity focus on maximizing average annual gross income over the growth cycle. As Goal One has noted in previous testimony, NRCS publications explain that average growth is maximized by harvesting at the culmination of mean annual increment (CMAI). CMAI, for Douglas-fir is, in general, 60 years. Calculations produced by Mr. Sectchko himself demonstrate that harvesting at CMAI of 60 years rather than on a 50-year growth cycle would result in 27.2% more average annual income over that growth cycle.

Mr. Setchko, in addressing log grading, explained that higher grades (for which prices are higher) cannot be achieved within a 50-year growth cycle. Maximizing cf/ac/yr productivity is not the same as maximizing board foot yield or income: it very well could be that more income could be generated by harvesting on a longer growth cycle, for example 100 years, if this were to result in higher grading and thus higher prices per board foot.

Mr. Setchko's assumptions that no old, large logs could or would have been harvested during the relevant 1978-1982 period; and that no higher grade logs could be produced over the applicable growth cycle, are unfounded in law and unsupported by evidence.

[1] The Woodland Workbook: Reforestation, "Successful Reforestation: An Overview," Oregon State University Extension Service, EC 1498, April 2002, p. 6.

III. Conclusion

The *Ogle Property Soil Report* confirms NRCS soil mapping and soils data. Philomath soils on the subject property are generally deeper than is typical for these soil units. The *Report* does not contradict and in fact supports available productivity data for ponderosa pine on the Philomath soil units.

Mr. Setchko's assumption of a 50-year growth cycle undermines his conclusions regarding potential average annual income over the growth cycle.

Goal One and other parties whose addresses appear in the first paragraph of this letter request notice and a copy of any decision and findings regarding this matter.

Respectfully submitted,

/s/ Jim Just

Jim Just
Executive Director

THE WOODLAND WORKBOOK

REFORESTATION

EC 1498 • Reprinted April 2002 $1.50

Successful Reforestation: An Overview

M.M. Atkinson and S.A. Fitzgerald

Contents

Mary M. Atkinson, former communications forester, Willamette Industries; and Stephen A. Fitzgerald, Extension forester, Central Oregon, Oregon State University.

So you'd like to plant some trees! As the saying goes, "The best time to plant a tree was 30 years ago—the next best time is now." This publication gets you started on the right track and answers some common reforestation questions. It provides a brief overview of the steps involved in a typical reforestation operation, including:

- Preparing the planting site
- Obtaining suitable seedlings
- Planting seedlings
- Plantation maintenance
- Financing reforestation activities

Also, you'll find references to other publications that provide more detail on reforestation. They are highly recommended reading.

OREGON STATE UNIVERSITY
EXTENSION SERVICE

Why reforest? Well, for one thing, it's the law. Reforestation is required when timber harvesting reduces the number of trees below specified stocking* levels (see EC 1194, *Oregon's Forest Practice Rules*). You must complete reforestation within 24 months after completing a harvest operation. Depending on site productivity, at least 100 to 200 seedlings per acre must be established. In addition, seedlings must be well distributed across the area and "free to grow" (vigorous and above competing vegetation) within 6 years.

In general, commercial tree species suited for your site conditions are acceptable species for reforestation. Contact your local Oregon Department of Forestry office about your particular reforestation situation.

Because reforestation is labor intensive and expensive, planning is essential to assure success. Lack of attention to any one step can result in costly reforestation failures.

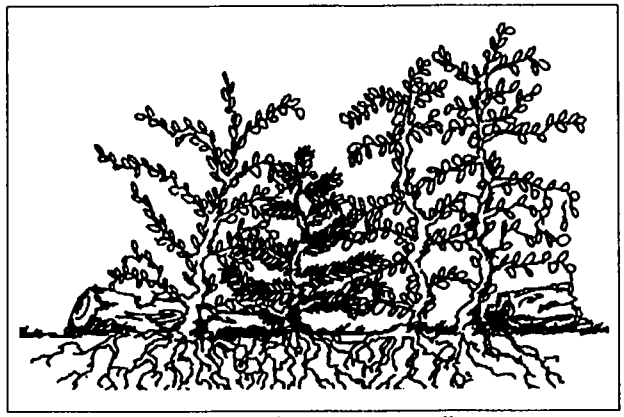


Figure 1.—Shrubs crowding a tree seedling.

Site preparation

The first thing to consider is the condition of the planting site. This includes the kind of vegetation present, soil type, aspect (compass direction the slope faces), and even the kinds of animals that might damage your trees.

Site characteristics are important because they affect critical site resources—water, light, temperature, and nutrients—necessary for seedling survival and growth.

Site preparation has three major objectives:

- Reduce the amount of vegetation that competes with tree seedlings
- Reduce habitat of animals that damage (browse and/or clip) seedlings
- Create plantable spots

Water is the most critical factor for seedling survival and growth, particularly the first few years after seedlings are planted. Grass, shrubs, and larger weeds are obvious competitors for moisture and light (Figure 1). It's important to remember that the root systems of grass and other vegetation are very extensive, spreading well beyond the aboveground portion of the plant.

Grass also provides habitat for meadow mice, voles, and gophers, which can severely damage or kill tree seedlings. You must keep grass away from newly planted seedlings for a few years to reduce habitat for these animal species.

Several methods or combinations of methods are available to prepare sites for planting. Costs depend on site conditions, methods used, existing vegetation, and amount of logging debris or slash. See EC 1188, *Site Preparation: An Introduction for the Woodland Owner.*

Mechanical methods

If there is a lot of slash or brush, you may need to use mechanical (tractor) or manual methods to create planting spots as well as to reduce brush competition. Heavy slash can make it difficult to plant an area and can pose a fire hazard. Disadvantages of mechanical methods are that they can remove topsoil, compact soil, and encourage grass and other vegetation to reestablish.

Burning also can reduce slash and brush competition, but it can be difficult to control. You first must move the slash into piles so you can control the fire more

* Stocking is the number of trees in a forest. Usually this is expressed as trees per acre or some relative measure—well-stocked, fully stocked, overstocked, understocked.

easily. Contact your local Oregon Department of Forestry office before doing any burning.

Manual methods

Hand-scalping is difficult, gives only short-lived vegetation control, and is very expensive. You can place mulch mats made of heavy kraft paper or plastic at least 3 to 4 feet square around seedlings immediately after planting. These mats effectively control local vegetation, but they are expensive (Figure 2).

Chemical methods

When selecting chemical methods, know which weeds you want to control, select the appropriate herbicides that are registered for forestry use, and always *read* and *follow label directions.* Pesticide registrations change often, so always consult the label; it is your best source of information. Chemical site preparation methods are most cost effective and generally offer better long-term control of competing vegetation.

If you are planting in an old pasture or field or if the site isn't too brushy (that is, you can walk easily through the area), you can use a combination of chemical and manual methods. The purpose of preparing a site is not so much to clear a planting spot completely but rather to expose mineral soil and reduce the amount of vegetation that competes with seedlings for moisture and light.

Finally, remember that you have more options and that it's easier to control competing vegetation *before* you plant seedlings. Also, maintaining a weed-free environment the first 2 years after planting helps ensure good survival and vigorous seedlings.

Obtaining seedlings

You can get tree seedlings for your site by encouraging natural seeding, by transplanting wildlings (seedlings growing in the wild), or by purchasing high-quality, nursery-grown seedlings.

Figure 2.—Mats effectively control competing vegetation, but they are expensive.

Use herbicides safely!

- **Wear** protective clothing and safety devices as recommended on the label. **Bathe** or shower after each use.
- **Read** the herbicide label—even if you've used the herbicide before. **Follow closely** the instructions on the label (and any other directions you have).
- **Be cautious** when you apply herbicides. **Know** your legal responsibility as a pesticide applicator. You may be liable for injury or damage resulting from herbicide use.

Natural seeding of new trees (natural regeneration) from remaining or nearby "parent" trees can be effective under the right circumstances. Species such as hemlock, alder, and lodgepole pine produce regular cone crops and regenerate rapidly from natural seeding. In other cases, relying on natural seeding to regenerate a site is risky because cone crops of many other tree species (including Douglas-fir and ponderosa pine) are sporadic, and site conditions must be right for seeds to germinate and grow.

Using natural regeneration requires a written plan that is reviewed by the Oregon Forest Practices Forester. The written plan must be submitted within 12 months after timber harvesting has reduced tree stocking.

The written plan should estimate the time needed to regenerate adequately stocked, free-to-grow seedlings and alternative strategies that you will use if natural regeneration does not go as planned. Consult a Forest Practices Forester with the Oregon Department of Forestry if you are considering using natural regeneration to reforest your site.

For smaller planting projects (a few acres or less), you can use wildlings, provided they are of the correct species and taken from the same geographic area and elevation where you will replant them. Wildlings should appear healthy, be about 2 feet tall, and have an adequate root system left intact after digging. Ask owners' permission before removing wildlings from land that is not yours.

Nursery-grown tree seedlings are used most widely and are available from many sources. A list of nurseries is available from the OSU Extension Service and the Oregon Department of Forestry. To ensure that you'll have enough seedlings for your reforestation project, be sure to order several months in advance. Some nurseries allow you to order seedlings 6 months before the planting season.

Seedling costs range from $150 to $300 per 1,000 seedlings. Costs vary by nursery and by type of seedling (stock-type) purchased. Be cautious of buying "good deal" surplus trees that are given away or sold at low cost at the end of the planting season. These trees may not be suitable for your planting location or may be of low quality after a long period of storage. Low quality will result in poor survival and growth—and so, these trees may cost you more in the long run.

To improve seedling survival and growth, you need to match the seedling properly to the site (environment) where it will be planted. A proper match begins when you order seedlings. You must tell the nursery what species and stock-type you want, the seed zone and approximate elevation where they will be planted, and how many seedlings you need. See EC 1196, *Selecting and Buying Quality Seedlings*, for more detailed information.

The following sections review some of the basic considerations for matching trees to your planting site.

Species selection

Different tree species are adapted to different site conditions. Ponderosa pine does well in eastern Oregon and on the drier, heavy clay soils of the Willamette Valley. Douglas-fir does best in many western Oregon locations except on wet sites or in shady areas, where western hemlock or western redcedar may be a better choice. Some species, such as western redcedar, are more susceptible to animal browse.

It is possible to plant more than one species in an area. To be successful, you should become familiar with the ecological requirements (tolerance to frost, high temperatures, light, and moisture) of the

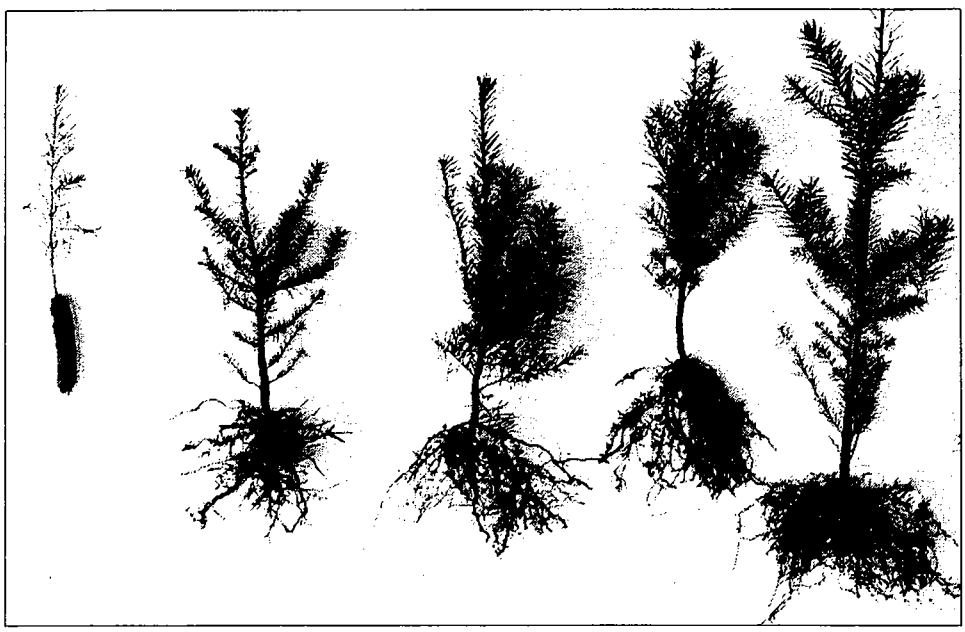


Figure 3.—Examples of the different seedling stock-types. From left: container; plug + 1; 2 + 0; 1 + 1; and 2 + 1.

different species and their growth habits. Investigate very carefully before planting nonnative (also called "exotic") tree species. Consult a local forester for specific information on selecting species suitable for your area.

Seed zone and elevation

To ensure that trees are adapted to your site conditions, order seedlings that are specifically for your seed zone and elevation. Seed zone maps and related information are in EC 1196, *Selecting and Buying Quality Seedlings*; or, contact a forester with the OSU Extension Service or Oregon Department of Forestry.

Stock-type

Stock-type is a *general* indication of seedling size, age, and other characteristics (Figure 3). For example, a 2-0 seedling is grown for 2 years in a seedbed. A 1-1 seedling is grown for 1 year in a seedbed and then transplanted at wider spacing and grown for another year in a transplant bed. Both trees are 2 years old, but because the 1-1 was transplanted, it is a larger seedling (larger diameter, taller, more root mass). A 1-1 seedling is more expensive, but it may be worth the extra cost in terms of better survival and faster growth.

Larger seedlings can withstand more deer browse and are better able to compete with fast-growing shrubs. On the other hand, on hot, dry sites a smaller stock-type may be a better choice because the seedling has a better balance between shoots and roots, enabling the seedling to survive under harsher conditions.

Planting seedlings

Careful handling and proper planting of seedlings are important steps to successful reforestation. You can find more detailed information in EC 1095, *Seedling Care and Handling,* and EC 1504, *The Care and Planting of Tree Seedlings on Your Woodland.* The following sections review some of the basics for successful planting.

***Table 1.*—Trees per acre at various spacings.**

Trees/acre	Spacing (ft.)
1,210	6 x 6
681	8 x 8
436	10 x 10
302	12 x 12
222	14 x 14
170	16 x 16

Spacing and selecting planting spots

Trees usually are planted at a 10' x 10' spacing in western Oregon and 12' x 12' on drier sites in central and eastern Oregon. If you anticipate severe (hot and dry) site conditions and heavier than normal mortality, you could consider planting trees closer together to ensure that enough survive to occupy the site. Table 1 is a guide to the number of trees to plant at a given spacing.

Your planting pattern need not be square. It is more important to select good planting spots—areas of exposed mineral soil, free of weeds—than to space trees precisely. On hot, south-facing slopes, selecting good planting spots, such as those areas shaded by stumps or logs, can be more effective than planting additional trees. Following up with good weed control can improve seedling survival on these severe sites.

Timing

The best time to plant conifer seedlings in western Oregon is from January through March. Hardwood seedlings do best if planted from mid-March to mid-April. Seedlings are dormant during these months and can withstand handling and planting.

Soils in eastern Oregon or at higher elevations may be frozen or snow covered during this time. Plant these areas as soon as possible after snow melts and the ground thaws (late March through April).

Some growers have tried planting in the fall. This is risky because seedlings are not fully dormant and so are susceptible to damage. Also, fall rains are unpredictable, and dry soils generally result in poor seedling survival.

Care and handling

Keep seedlings cool (34 to 40°F) and moist and handle them gently at *all* times. When transporting seedlings to the planting site, keep them away from direct sunlight and cover them with a reflective tarp. Store extra seedlings temporarily in a shaded, cool spot at the planting site until needed. Do not allow seedlings to freeze.

Tools and planting

Special long-bladed shovels, planting spades, planting hoes (called hoedads), or power augers are used to plant seedlings. Planting holes should be deep enough to accommodate roots. Plant the seedling so its roots spread downward in the planting hole and are not crammed in, forming "J-roots." Plant seedlings upright so that all roots are well covered, and firm the soil around roots to eliminate air pockets. Avoid mixing any organic debris, such as rotten wood, branches, or needles, in the planting hole.

Fertilizing seedlings at planting time is not recommended under most conditions. Soil fertility usually is adequate. Fertilization actually may harm seedlings by burning the roots, encouraging excessive top growth, or by encouraging the growth of weeds that compete with seedlings.

If you hire a planting contractor, obtain and check references first. Names of local contractors may be available from an OSU Extension forester or the Oregon Department of Forestry. It is important to monitor tree planters to be sure they do a good job.

Planting costs vary with site conditions, size of seedling, spacing, and availability of planting crews. Costs may range from 25 to 45 cents per seedling or roughly from $100 to $200 per acre. This includes the costs of seedlings and labor.

Seedling protection

If populations of deer, elk, gophers, or mountain beavers are large, you may need to protect newly planted seedlings. To deter deer and elk, you can place protective devices (Figure 4) around seedlings or use repellents. Control gophers by baiting and trapping; mountain beavers usually are trapped to control their populations. For specific information on animal damage protection, see:

- EC 1144, *Controlling Mountain Beaver Damage in Forest Plantations*
- EC 1201, *Understanding and Controlling Deer Damage in Young Plantations*
- EC 1255, *Controlling Pocket Gopher Damage to Conifer Seedlings*
- EC 1256, *Controlling Vole Damage to Conifer Seedlings*

On south-facing slopes, seedlings may be damaged or killed by intense sunlight and heat. Shading the seedling's lower stem with shade cards (available commercially or homemade) can improve seedling survival on these harsh sites, particularly if there is little shade from stumps, logs, and slash.

Plantation maintenance

Once seedlings are planted, additional maintenance often is needed to ensure their continued survival and growth. A systematic walk through the plantation each year can reveal whether seedlings are alive and growing well and whether action is needed to control weeds or protect trees from animal damage.

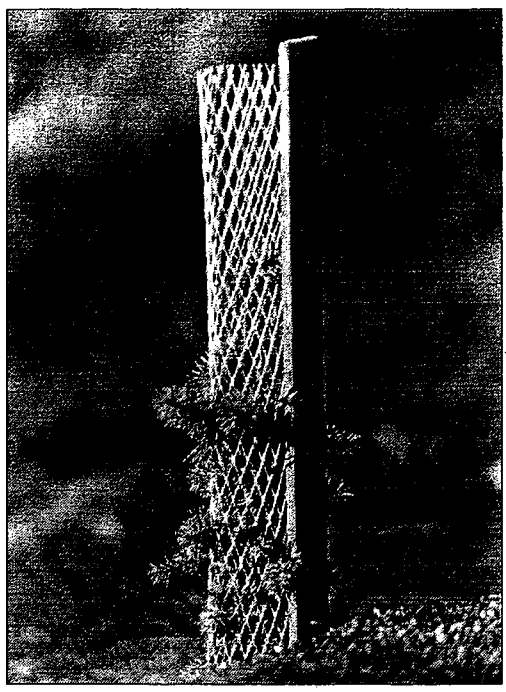


Figure 4.—A vexar tube protects against browsing deer.

Seedling growth is slow the first year or two (4 to 6 inches). Some hardwood species, such as alder, can grow much faster. After the first year or two, and depending on site conditions, you should get 1 to 3 feet of height growth on Douglas-fir seedlings as they become established and growth improves.

Be sure to watch the site closely so that weeds don't reinvade before your seedlings take hold and grow. The first 2 years are critical, and retreatment may be necessary to ensure survival. A healthy plantation is your reward for a job well done! Find additional information on weed control in EC 1388, *Introduction to Conifer Release.*

For more information on plantation maintenance and protection from animal damage, contact the OSU Extension Service and the Oregon Department of Forestry.

Steps for successful reforestation

- Carefully plan and evaluate your site.
- Do an excellent job of site preparation.
- Select the proper species and seedling stock-type for your site, and order early.
- Carefully handle and plant seedlings.
- Follow up with weed and animal damage control, if needed, the first 2 years.
- Enjoy your young forest and watch it grow!

Financial assistance for reforestation

Many landowners are interested in financial assistance for reforestation: either reimbursement for some costs of reforestation, or tax savings from having your property assessed as forest land, or state and federal reforestation tax credits.

Cost-share money may be available for reforestation in some situations under the Forestry Incentive Program (FIP) and the Stewardship Incentive Program (SIP). For more information, contact your local Farm Services Agency (FSA). The FSA is listed in the phone book under "United States Government—Agriculture Dept. of." FSA administers these cost-share programs and works closely with your local Service Forester from the Oregon Department of Forestry. You can find additional information in EC 1119, *Incentive Programs for Woodland Management and Resource Conservation.*

If your land currently has no trees but could support native, commercial tree species, you might qualify for "forest deferral" if you plant seedlings and manage your land for timber. This special tax designation provides significant property tax savings to you. To qualify, you must have a management plan and own at least 2 acres that are contiguous (not including area for residence), *and* you must establish enough trees to meet or exceed the forest practices minimum reforestation stocking requirements. Apply for forest deferral between January 1 and April 1 with your county assessor's office. The county assessor can give you additional details.

Reforestation tax credits are available to help offset reforestation costs. Information on state reforestation tax credits can be obtained from the local Oregon Department of Forestry Service Forester. Contact the IRS for information on federal reforestation tax credits.

For further reading

OSU Extension publications

Oregon's Forest Practice Rules, EC 1194. P.W. Adams. 1996. Corvallis: Oregon State University Extension Service. $1.00

Controlling Mountain Beaver Damage in Forest Plantations, EC 1144. 1993. D.S. deCalesta, R.E. Duddles, and M.C. Bondi. Corvallis: Oregon State University Extension Service. $1.00

Controlling Pocket Gopher Damage to Conifer Seedlings, EC 1255. 1993. D.S. deCalesta and K. Asman. Corvallis: Oregon State University Extension Service. $1.50

Controlling Vole Damage to Conifer Seedlings, EC 1256. 1992. R.E. Duddles and D.S. deCalesta. Corvallis: Oregon State University Extension Service. $1.00

Introduction to Conifer Release, EC 1388. 1998. R.E. Duddles and M. Cloughesy. Corvallis: Oregon State University Extension Service. $1.50

Selecting and Buying Quality Seedlings, EC 1196. 1999. R.E. Duddles and C.G. Landgren. Corvallis: Oregon State University Extension Service. $2.00

Understanding and Controlling Deer Damage in Young Plantations, EC 1201. 1999. R.E. Duddles and W.D. Edge. Corvallis: Oregon State University Extension Service. $2.00

The Care and Planting of Tree Seedlings on Your Woodland, EC 1504. 1999. M. Elefritz, M. Atkinson, and S.A. Fitzgerald. Corvallis: Oregon State University Extension Service. $2.00

Seedling Care and Handling, EC 1095. 1998. W.H. Emmingham, B.D. Cleary, and D.R. DeYoe. Corvallis: Oregon State University Extension Service. $1.00

Site Preparation: An Introduction for the Woodland Owner, EC 1188. 1998. S.A. Fitzgerald. Corvallis: Oregon State University Extension Service. $2.50

Incentive Programs for Woodland Management and Resource Conservation, EC 1119. 2002. B. Withrow-Robinson and R. Fletcher. Corvallis: Oregon State University Extension Service. $1.00

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The Woodland Workbook is a collection of publications prepared by the Oregon State University Extension Service specifically for owners and managers of private, nonindustrial woodlands. The Workbook is organized into separate sections, containing information of long-range and day-to-day value for anyone interested in wise management, conservation, and use of woodland properties. It's available in a 3-ring binder with tabbed dividers for each section.

For information about how to order, and for a current list of titles and prices, inquire at the office of the OSU Extension Service that serves your county.

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Michael E. Farthing
Attorney at Law

Smeede Hotel Building
767 Willamette Street, Suite 203
Eugene, Oregon 97401
Office (541) 485-1141 – Fax (541) 485-1174
email - mefarthing@yahoo.com

March 7, 2006

HAND DELIVERED

Lane County Planning Commission
% Jerry Kendall
Land Management Division
Lane County Courthouse/Public Service Building
125 East 8th Avenue
Eugene, OR 97401

Re: Marginal Lands Plan Amendment Application
Tax Lots 303 and 304, Map No. 18-04-11
(Ogle-Childs)

Commissioners:

Pursuant to the post-hearing schedule that was established at your February 21 public hearing, I am submitting a second supplemental report, dated March 1, 2006, prepared by Marc Setchko, the applicant's consulting forester. It is primarily a discussion of the materials submitted by Jim Just on behalf of Goal One Coalition. We urge you to carefully review this report because it contains a detailed response to Mr. Just's inflated calculations about the income-producing capabilities from the production of timber on the subject property.

As Mr. Setchko describes in this analysis as well as the previous supplement to his initial report, Mr. Just's numbers and calculations are based on reasoning and assumptions that are not supported by sound and rational forestry practices. Mr. Setchko observes generally about Mr. Just's submittal:

> "...Throughout his letters, Mr. Just repeatedly makes statements of fact, then shows data which does not match the statement, or cites a source for data used in tables, then presents data (in his tables) that is different than the data shown in the sources."

Whether it is log lengths, log grades, log prices or growth rotation, Mr. Just has manipulated the data to produce results that have no bearing in fact nor are they within the parameters established by the Board of Commissioners in the 1997 Interpretation of the Marginal Lands requirements.

His continued use of growth rotation other than the 50-year cycle established by the Board is just one example.

After reviewing Mr. Caruana's soils report together with the information and exhibits that were included with our initial application, other than Mr. Setchko's enclosed response and analysis, we do not believe any new information or material are required to support approval of these applications. While we reserve our final summary of the evidence for the March 21 submittal. There are a couple of preliminary points to emphasize as you review the record of this application.

Setchko and Caruana Reports

Questions were raised during the February 21 public hearing about a possible conflict or inconsistency between Mr. Setchko's reports and testimony versus the report provided by Mr. Caruana. After the meeting we talked about those concerns and it was consensus of all of us (Setchko, Caruana and myself) that there were no inconsistencies or conflicts. As Mr. Setchko explains in his enclosed supplemental report, there are areas of the subject property that have "no productivity from a tree growing standpoint." The reasons for this conclusion are the presence of shallow or non-existent soils, south aspect, lethal temperatures and the inability of these soils to retain moisture. These conclusions are based on his personal attempt to grow trees in nearly identical conditions.

Mr. Setchko's conclusions are supported by Mr. Caruana's findings and particularly the varied soil depths which he found within a single soil type, e.g. Philomath 107 C and 108 F. See Table 14. Mr. Caruana concluded (p 12) that the "pattern of forest cover on the property was found to follow closely to the presence of deeper soils on the property." This conclusion is entirely consistent with those of Mr. Setchko. In short, the areas of the subject property that have trees also have deeper soils while the areas that do nor now and likely have never supported trees are characterized by shallow or no soils.

The point is that the soil mapping for these areas is generalized and not site specific. The characteristics for each soil type are an average and subject to more precise delineation on a site-specific basis. This is what is occurring in these circumstances: the soil classifications are a starting point but do not necessarily predict what the site will actually be able to produce. Mr. Setchko has concluded that nearly a third of the site will not grow merchantable trees of any kind and therefore has a 0 timber productivity. It is grassland with areas of exposed rock. It is neither feasible or practical to try to grow trees in these areas. Mr. Caruana agrees because of soil depth (or lack thereof), south aspect and lack of moisture. There is o conflict between their observations of the site.

Soil Mapping and On-Site Analysis

The applicant welcomes the County's experts' review of the reports of Mr. Setchko and Mr. Caruana. They and the Planning Commission are welcome to observe the property first hand. As I indicated at the last hearing, the dirt speaks for itself. There was, however, a question raised about what evidence is most relevant and can be considered by the Planning Commission.

For guidance, I recommend you review the Ericsson case (*DLCD v. Lane County*, 23 Or LUBA 33 (1992)) which was the first LUBA case that addressed Land County's consideration and application of the Marginal Lands criteria to a specific set of circumstances. In affirming the Board of Commissioner's approval of a Marginal Lands plan amendment and zone change for a 90-acre parcel, LUBA held on page 37:

> "While classification of the soil on the subject parcel is relevant in determining the parcel's capability to produce the requisite income over the growth cycle, we do not agree with the petitioners that the soils are dispositive of the capability of the parcel to produce trees and, therefore, of whether the parcel can generate the specified income over the growth cycle. The issue is whether the county determined the capability of the subject property to produce an average annual gross income of $10,000, over the growth cycle, using reasonable management practices."

In that case, the applicant hired a professional forester to analyze the "capability" of the subject property which was characterized in the County's findings as the "actual timber growth potential for the property." LUBA went on the quote the County's findings (pages 37-38) including Finding 5 which found:

> "[The applicant's expert] did not question or dispute the Oregon Department of Forestry's timber growth rate estimates for the various soil types of the Subject Property. He concluded, however, that those growth rates were not being achieved for the timber that was actually growing on the Subject Property, nor would it be achieved, even if the property were fully stocked. [Applicant's expert] stated he did not know the reason for the lower growth rates on the subject property but speculated it could be a combination of factors, including, but not limited to, soil compaction, exposure poor drainage, soil depths and over grazing..."

LUBA affirmed the County's determination, based on the applicant's forester's on-site analysis, that the subject property was not capable of producing $10,000 annual gross income from the growth of merchantable trees. 23 Or LUBA at 39.

Five years later in its Interpretation of the Marginal Lands criteria, the Board of Commissioners recognized under Issue 6, that the Ericsson case held that "on-site evaluation by a qualified expert is weightier than published data." The published soils rates only go so far in describing the timber-growing capabilities of the subject property. The reports of Mr. Setchko and Mr. Caruana provide a far more specific analysis of the growth potential for this site based upon on-site visits and years of professional experience. In particular, Mr. Setchko's reports are far more specific as to the actual timber growing conditions that exist on this site.

This is substantial and persuasive evidence that has been prepared by acknowledged experts in their respective fields. There is no other evidence in the record that challenges or contradicts those opinions which are based on-site specific observations and tests. Mr. Just does nor provide any cogent or credible evidence or analysis. His use of the published data and the assumption he applies is questionable, at best. We urge your close review of the record in making your decision.

Sincerely,

Michael E. Farthing

MEF/kt

Enclosure

cc: Brad Ogle
Marc Setchko
Stephen Caruana

Marc E. Setchko
CONSULTING FORESTER

870 Fox Glenn Avenue
Eugene, Oregon 97405
Phone: (541) 344-0473
FAX: (541) 344-7791

FOREST PRODUCTIVITY AND INCOME ANALYSIS
for Brad Ogle and Mark Childs -- March 1, 2006
SUBJECT PARCEL: ASSESSORS MAP NO. 18-04-11
Tax Lots 303 & 304, totaling 113.74 acres.

SUPPLEMENT TO ORIGINAL REPORT DATED JULY 7, 2005, including response to issues raised by Jim Just in February 1, 2006 letter to Lane County Planning Commission (presented by page number).

I will first try to clarify some of the issues and tables, presented by Mr. Just, which are extremely misleading.

Page 2 (Table 1 at bottom of page): Mr. Just shows a Site Index of 125 for Ponderosa Pine with a growth rate of 154 cf/ac/yr, then cites *Establishing and Managing Ponderosa Pine in the Willamette Valley* as the source for these figures. The table in this publication shows a Site Index of 104 and a growth of 110 cf/ac/yr, then cautions against putting to much weight on these figures due to the small sample size from which these figures were obtained. The latter **figures shown were presented by Mr. Just** in a previous presentation, and used by me in my analysis.

Page 6 (under prices): Mr. Just has questioned why I have not used log grades of higher value than 2 Saw. I have submitted Exhibit One showing the specifications needed for a log to be graded higher than a 2 Saw log, i.e., Peelers and Special Mill. The first requirement for these grades is age, then surface characteristics. Peelers and special mill grades require trees older than 50 years (see Tree Age column on Exhibit 1). These grades cannot be attained in a 50 year rotation, therefore they were not considered. I used the three grades which can exist in a 50 year old stand. I also used optimistic percentages of the three grades (40% 2 saw, 50% 3 saw and 10% 4 saw). From 30 years of cruising experience, I can state that these percentages of saw grades are high. Usually stands growing on Site III and IV ground (the site classes on the Ogle parcel) will have 20-25% 2 saw and 20-25% 4 saw, with the remainder being 3 saw. Using real stands growing on poor sites, such as the Ogle parcel, will actually result in lower average prices than I have used in my original report.

I have also presented Exhibit 2, showing the average stand diameter of stands at different ages, on different sites. From this exhibit it can be seen that, on **high** site III ground, the average stand diameter (at breast height) is 11". A 2 saw log must have 12" inside the bark, **at the top of the log**, to be graded a 2 saw log. An 11" tree cannot have a 2 saw log. However, 2 saw logs will exist in these stands because the diameters shown are averages. Therefore, some of the trees will be larger, and some will be smaller. A further argument could be made that thinning the stand will increase the average diameter, hence the percentage of 2 saw. This is true, in fact would be considered a reasonable and prudent forest management practice. But a thinned stand, while producing larger trees, has fewer trees. This means that the cubic foot per year per acre growth, in a thinned stand, will be less than the growth from a fully stocked stand. The tables used for projecting cubic foot growth, per acre per year, assume fully stocked stands.

To sum this up: fully stocked stands produce smaller average diameter trees, i.e., more 3 saw and 4 saw than 2 saw, but more cubic foot growth per year. Less than fully stocked stands, i.e., thinned and/or poorly stocked stands, produce larger average diameter trees, i.e., more 2 saw, but less cubic foot growth per year. Therefore, the grade mix I used for the forest income test is actually higher than an actual stand on this site class would produce.

Page 9: Mr. Just has pointed out that harvesting 16' logs would result in substantially more yield. This is true. The mills price the logs accordingly. Most mills pay top dollar for 36'-40' logs; some pay top dollar for 32'-40' logs. Shorter lengths drop off dramatically in price. If you can get a "camp run" price (meaning every log gets paid the same), there are parameters to follow. A standard in the industry is 70% of all delivered volume **shall be in 32' or longer logs**. This means that for every 16' log cut, a 36'-40' log must be cut to make up the difference. A log buyer will adjust his "camp run" price according to how much short wood they think will be delivered. If you can find a mill that will accept all 16' logs they will adjust the price down accordingly.

In summation: the mills have taken the scaling rules into account when stating a delivered log price. The standard has been 32' logs for years, now the most sought after logs are 36'-40'. The standard in eastern Oregon has been 16', primarily because of different trees species (i.e., products) and much shorter trees in this portion of the state. Mr. Just states that "reasonable management practices" would include selecting a log length that would maximize income. **In western Oregon, cutting long logs maximizes income.**

Final Paragraph Page 9: Mr. Just states again that I have assumed that only grades 2S, 3S and 4S exist on the Ogle property. He then states that 32' logs would generally be expected to result in higher grading, and thus higher prices. I am not sure what this means. Why would a longer log be a higher grade, just because of length? Grades are based on characteristics of the log, primarily surface characteristics, not length. Today's biggest **price determinant is length, not diameter**. And looking at Exhibit 1 shows that the higher grades cannot be obtained in a 50 year rotation.

He then states that the two assumptions - lower grades and 32' logs - are not consistent. This is very confusing, because the two have very little to do with each other. Grades are not determined by length, lengths were established by grading/scaling bureaus to accurately reflect the products being produced. For years 8' foot studs were the norm, hence 32' logs (because this is 4 X 8'). Today the 9' stud is becoming standard in many homes, hence 36' logs (because this is 4 X 9').

In other words: the current marketplace has changed the desired log lengths, but the scale books still use 32' as the standard west of the Cascades and 16' as the standard east of the Cascades.

Goal One has also questioned why I have discussed the facts of today's timber market, specifically, long 36'-40' logs, which were not the predominant logs in 1983 markets. In fact the relevance of my discussion of current log markets was called into question.

The reason I have discussed this subject is the parameters used for the income test. **Whether or not a tree species will be used for the 1983 income test is determined by whether or not it is a merchantable species on today's market. This is the primary reason that ponderosa pine is even being considered for the productivity test; in 1983 it was virtually impossible to sell west of the Cascades.**

Page 10 (table presented at the top of the page): This table shows board feet per acre, and total volume in board feet, for each soil type. On page 9 Mr. Just states that volume totals shown, for the entire 113.74 acres, are based on growth cycles of 60 years for Douglas-fir and 40 years for ponderosa pine. Neither species uses the 50 year growth cycle which is the parameter used by Lane County for calculations of income. The volumes shown, on the table presented, for both Douglas-fir and ponderosa pine are 60 year volumes. I am not sure why Mr. Just states that the ponderosa pine volumes are for a 40 year rotation, then uses 60 year volumes. Throughout his letters, Mr. Just repeatedly makes statements of fact, then shows data which does not match the statement, or cites a source for data used in tables, then presents data (in his tables) that is different than the data shown in the sources.

However, the biggest discrepancy in the volumes (shown in Mr. Just's income test table) occurs from the use of 16' log scaling volumes. These volume figures (for 16' logs) are 22-23% higher than the 32' log volumes, which is the standard used west of the cascades. All log buyers, and foresters, are aware of this, but the 32' log volumes must be used, because that is what log prices, west of the cascades, are based on. Using 16' log volumes increases the volume figures used for the income test. Combining the 16' log volumes with the volumes attained in a 60 year rotation, rather than a 50 year rotation, inflates the volumes used for the income test by **more than 80%**. The tables for ponderosa pine do not differentiate between 16' and 32' log volumes. My guess is that these are 16' log volumes, because that is the standard for east of the cascades; growth and volume tables for ponderosa pine west of the cascades are still being developed. However, since these are the only numbers available I will use them for the following presentation of the income calculation, but I will use the 50 year volumes rather than the 60 year volumes.

The table presented here is on page 10 of Mr. Just's letter to Lane County. I have inserted the correct figures, i.e., 50 year/32' log volumes for Douglas-fir and 50 year volumes for ponderosa pine. The numbers shown (in bold print) are from the tables **presented by Mr. Just.** In other words, I have used **the data presented by Mr. Just**, but used the **correct volumes for Douglas-fir** (i.e., 32' logs, SEE MY DISCUSSION AT THE TOP OF PAGE 2), from the **correct rotation for both Douglas-fir and ponderosa pine** (i.e., 50 years). Only the corrected numbers are shown in bold print.

VOLUME TABLE FOR OGLE PARCEL
(as presented by Mr. Just, **bold** print my changes)

#	Soil Name	Acres	Site Index	bd.ft./ac.	total volume (board feet) DF	PP
43C	DPH Complex	6.64				
	Dixonville (30%)	1.99	109	**22,321**	**44,419**	
	Philomath (30%)	1.99	104	**12,488**		**24,851**
	Hazelair (25%)	1.66	120	**20,912**		**34,714**
43E	DPH Complex	0.44				
	Dixonville (30%)	0.15	109	**22,321**	**3,348**	
	Philomath (30%)	0.13	104	**12,488**		**3,746**
	Hazelair (25%)	0.11	120	**20,912**		**2,300**
81D	McDuff	5.60	112	**22,321**	**124,998**	
102C	Panther	14.68	-	**6,215**	**91,236**	
107C	Philomath	39.61	104	**12,488**		**494,650**
108F	Philomath	30.20	104	**12,488**		**377,138**
113E,F&G	Ritner	13.38	107	**20,099**	**268,925**	
125C	Steiwer	3.19	-	**4,136**	**13,194**	
TOTALS		113.74			**546,120**	**937,399**
TOTALS FROM MR. JUST					991,455	1,398,346

The volumes shown above differ considerably, **even though they are from the same tables, all presented by Mr. Just**. The bold figures are numbers from the correct rotation age and correct volume columns, although the ponderosa pine figures are probably high, due to the likelihood of these volumes being 16' log volumes rather than 32' log volumes. However, since no other numbers are available I will use these numbers for the income calculation.

Other notes for clarification. The Douglas-fir prices used by Mr. Just are high, because he used an average price from 1978-1982 (as stated by him midway down page 10). The prices would be lower if 1983 prices and actual grade percentages used. The ponderosa pine price is much higher than what would have been received on the open log market, since average prices, **presented by Mr. Just, included all ponderosa pine grades,** were used. In reality, if the same 40% 2 saw, 50% 3 saw and 10% 4 saw ratio used for Douglas-fir, were applied to ponderosa pine, the price would be considerably lower. A 4 saw ponderosa pine has the same specifications as a 2 saw Douglas-fir, a 5 saw ponderosa pine has the same specifications as a 3 saw Douglas-fir and 6 saw ponderosa pine has the same specifications as a 4 saw Douglas-fir. So, in order to compare apples to apples, the same ratio applied to Douglas-fir 2 saw, 3 saw and 4 saw would need to be applied to ponderosa pine 4 saw, 5 saw and 6 saw. Using these ratios with 1983 log prices yields an average price of **$205.20/MBF. Even this price is high, because 4 saw is a tough grade to attain in valley ponderosa pine** (see Exhibit 3). **The true market value** at that time (for valley pine) was in the $160-170/MBF range. The average price I have used for **Douglas-fir in my original analysis is $229.50/MBF.**

However, for the sake of argument I will present the income test using the volume figures shown above, but **prices presented by Mr. Just.**

INCOME TEST FOR OGLE PARCEL using log prices presented by Mr. Just.

Douglas-fir

2S	.40 x 546.120 mbf = 218.45 x $316 =	$ 69,030	
3S	.50 x 546.120 mbf = 273.06 x $268 =	73,180	
4S	.10 x 546.120 mbf = 54.61 x $235 =	12,833	
		$155,043	$155,043
Ponderosa Pine	937.399 x $309 =	$289,656	$289,656
			$444,699

$444,699 (income over 50 year growth cycle)÷50 years = $8,894 per year

The above figure is less than $10,000 per year. This is the yearly income for the parcel; using numbers arrived at by splitting the DPH complex (which cannot be done), assuming full stocking over the entire 113.74 acres (which would be difficult, if not impossible to attain) and using log prices which are substantially higher (≈50%) than the prices actually paid during 1983.

INCOME TEST FOR OGLE PARCEL using 1983 log prices (Douglas-fir prices shown below result in an average log price of $229.50/MBF).

Douglas-fir

2S	.40 x 546.120 mbf = 218.45 x $255 =	$ 55,705	
3S	.50 x 546.120 mbf = 273.06 x $215 =	58,708	
4S	.10 x 546.120 mbf = 54.61 x $200 =	10,922	
		$125,335	$125,335
Ponderosa Pine	937.399 x $205 =	$192,167	$192,167
			$317,502

$317,350 (income over 50 year growth cycle)÷50 years = $6,350 per year

The above figure is substantially less than $10,000 per year. This number is arrived at even with the assumption that the ponderosa pine will have 40% 4 saw grade wood.

The final point to be discussed in brought up on Page 3, under the discussion of soils with zero productivity. Mr. Just states that I have excluded approximately one third of the property from my analysis, assuming "zero" productivity for tree growth. He further states that SCS and NRCS soil maps show these areas as being underlain by the Philomath soils. He then states that I have "invented" a new soil. All I have done is make the observation that no trees have grown in these areas for decades (as shown on the attached aerial photos), no trees are growing there now; therefore, these areas have no productivity from a tree growing standpoint.

I am basing my analysis on 30 years of experience, as a certified professional forester, and years of personal experience on similar properties. The most recent example of personal experience with this type of property is one that I owned with a partner until 2004. The property had similar soil types to the Ogle property, thin soils over rock with exposed rock, a southwest aspect, and grass. We planted ponderosa pine in this area (≈15 acres) **three** times; to date only a handful of trees have survived. Just because the soil map says a certain soil exists in an area does not mean it will support trees. Productivity figures for a soil type are averages taken over a wide range of sites. If the site is similar to the average site, the productivity of trees growing on the site will match the tables. However, there are many areas of the countryside overlaid with productive soils that have no trees. Conversely, there are areas of poor soil that do support trees.

There are many reasons for this. Thin soils do not provide enough rooting depth. Soils on a south slope can reach lethal temperatures in the surface layer, sometimes reaching above 140°F in the summer months (see page 7 and 8 of soils report by Mr. Caruana). Increased soil temperatures result in less moisture. With little moisture retention, and hot soil temperatures, these thin soils (on top of rock), will not support tree growth. This same soil, with a deeper soil depth, on a north slope, may support trees very well. Trees grow well on north slopes because of natural shading, which helps moisture retention and keeps soil temperatures low, which dramatically improves a tree's chance of surviving and establishing itself.

Another very important factor is the **difference** between **soil depth** and **effective depth.** Soils which are approximately 10" or less are extremely difficult, if at all possible, to establish trees in. Deeper soils, under ideal conditions, will readily support tree growth. However, **absolute** and **effective** soil depths are not necessarily the same. A high water table, toxic substances, an impervious layer, high rock content or steep slopes are factors which decrease the **effective** soil depth and decrease productivity. In many cases the conditions which decrease the effective soil depth are not sufficient to overcome the absolute soil depth. The result is areas of soil which will not grow trees. Practicing foresters are trained to look for areas such as these and adjust their management practices accordingly. If I have **repeatedly planted** an area with seedlings, over the course of several years, with no (or very little) survival, I make the assumption that the area is nonproductive. I will not, and will not advise a client, to continually plant an area because a map states that the soil (which may or may not be the actual soil there) is productive. At some point, a prudent tree farmer, company forester or consulting forester, makes the decision that the soil in nonproductive.

The primary point of this discussion is that all of these factors have a huge influence on tree growth. The same soil will have radically different growth rates, depending on the aspect, soil depth, elevation and latitude. A north aspect will have much better growth than a south aspect, trees grow better in deeper soils and higher moisture conditions. The further north (in latitude) you go, the better trees grow, because the rainfall increases. The only case where this is not so is when you get to the far north (Alaska and the Arctic Circle), because the extreme cold and harsh conditions inhibit growth.

In short: **soil type** is only **one** environmental factor influencing growth. Mr. Caruana will discuss all of these factors in detail; I am simply stating what I have observed during 30 years as a practicing forester.

To conclude this response I would like to discuss the concept of "reasonable management practices", which Mr. Just **repeatedly** brings up. The majority of his proposals to land owners would be horribly expensive up front, with very little return in the future. Ponderosa pine will be used as an example. Establishing ponderosa pine (while easier than Douglas-fir) on harsh, low site ground, would be difficult, if not impossible. I know this from years of experience, regardless of what a soil table says. Planting a property three or more times to establish a tree species would be extremely expensive, regardless of the tree planted. On top of that you would need to pay for brush control, otherwise you will not get the growth rates expected during the early years of a fully stocked, "free to grow" stand of trees. Brush control is expensive.

To spend this much money (this could exceed $1000/acre), establishing a tree worth very little on today's market, would not be prudent or "reasonable" from a landowner's perspective. This would be equivalent to buying a "hot" stock, betting that it will increase in value. Financial planners shudder at this, they want the money in dependable funds. As a practicing professional forester I would not recommend this course of action to a client of mine. I like to stick with tried and true forest practices, i.e., predictable and dependable.

The proposals Mr. Just makes are anything but "reasonable management practices". They are unsound from a financial standpoint and difficult to achieve from a forestry standpoint. As a consultant it is my job to help the landowner choose a course of action which is financially prudent and above all "doable". The last thing I would recommend is multiple plantings of a low value tree, on ground that has not grown trees in the past and will in all likelihood not grow trees in the future.

CONCLUSION

The analysis presented shows conclusively that this property will not support a merchantable stand of timber, of sufficient production capability, to meet or exceed the Marginal Lands Income test:

1) FROM ORIGINAL ANALYSIS DATED JULY 7, 2005. The estimated gross income based on a 50 year rotation for the entire 113.74 acre parcel would have been $258,630 in 1983. The average annual gross income would have been **$5,173 per year**.

FROM ANALYSIS PRESENTED IN SUPPLEMENT DATED MARCH 1, 2006. Using prices presented by Mr. Just, the estimated gross income based on a 50 year rotation for the entire 113.74 acre parcel would have been $444,699 in 1983. The average annual gross income would have been **$8,894 per year**. Using prices from 1983, the estimated gross income based on a 50 year rotation for the entire 113.74 acre parcel would have been $317,502 in 1983. The average annual gross income would have been **$6,350 per year.**

All of these figures are less than $10,000/year. Therefore, the property meets the following statutory test for Marginal Lands: ORS 197.247 (1)(a) "The proposed marginal land was not managed during three of the five calendar years preceding January 1, 1983, as part of a ... forest operation capable of producing an average, over the growth cycle, of $10,000 in annual gross income."

2) FROM ORIGINAL ANALYSIS DATED JULY 7, 2005. **These figures were calculated from productivity of areas that are actually capable of growing timber. Areas incapable of growing trees were not considered.** The subject parcel produces less than 85 cu. ft./ac./yr. of merchantable timber volume. The portion of the parcel being looked at for marginal lands designation produces only 69.327 cu.ft./ac./yr; only 62.146 cu.ft./ac./yr. if ground under the powerlines are not included. This has been determined by Lane County, and the State of Oregon, to be the measuring parameter for marginal soils west of the Cascade Range; as defined in ORS 477.001(21).

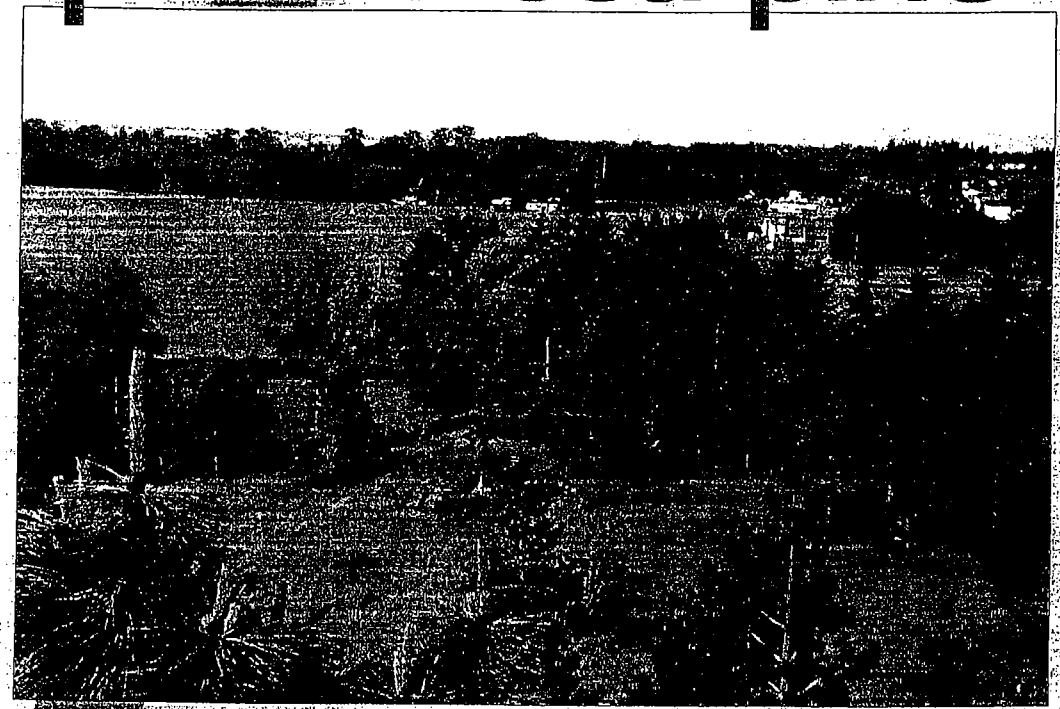
In summary, I find from the **specific site conditions present**, empirical yield tables, SCS data, Lane County Data and experience with similar lands, that this property is ill suited to the production of merchantable timber and use as land for forestry purposes. It is my opinion that this parcel should be classified as marginal land.

Sincerely,

Marc E Setchell

EM 8805 • May 2003
$24.00

Establishing & managing ponderosa pine



in the Willamette Valley

EXHIBIT 3-1

OREGON STATE UNIVERSITY
EXTENSION SERVICE

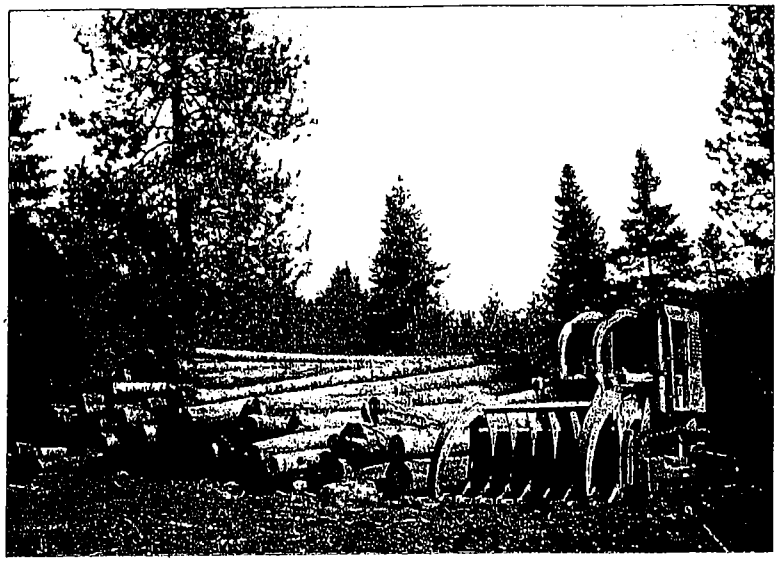


Figure 53.— Ponderosa pine should be felled, bucked, skidded, and delivered to the mill as quickly as possible to avoid blue stain problems.

in the shortest time possible because of problems that can arise from a blue stain fungus carried by ambrosia beetles.

These insects quickly invade a cut tree and deposit the stain organism along exposed portions of the tree (severed limbs and ends of the log). The result is a bluish stain in the log. The consequence to the woodland owner (depending on the log grade) is a log valued much less than if the stain were not present.

Blue stain spreads faster in the warmer, drier months—the typical time of year for private woodland timber harvests—than in the cooler, wetter months.

Log grades

Log grades that purchasers use are related to the amount of certain qualities of wood products (lumber, veneer, pulp) that can be recovered from a given log. Consideration of grade recovery from logs is seldom an issue when merchandising Douglas-fir and whitewoods. However, due to the growth characteristics of second-growth ponderosa pine, lumber recovery becomes an extremely important factor in determining log grade(s) in ponderosa pine with scaling diameters of 12 inches or larger.

Lower grade pine logs have no trouble meeting recovery requirements. The lowest quality boards, along with veneer cores and backs, are produced from this smaller diameter material.

Sellers of 5- to 11-inch logs, however, are facing stiff competition from pine growers in the southeast United States along with lower quality whitewoods from the Pacific Northwest. Ample supply from these sources most likely will keep lower quality and small-diameter pine at relatively low prices for the foreseeable future. Look for values to be approximately 50 to 60 percent of those for material 12 inches and larger and for #4 Sawmill ponderosa pine logs.

With relatively low values for smaller diameter pine, there may be an economic incentive for longer rotations, which produce a larger percentage of logs with scaling diameters of at least 12 inches in diameter, one of the requirements for a #4 sawmill log.

It also might be necessary to ship the logs to high-value pine markets east of the Cascades or in southwest Oregon. Substantial increases in the supply of ponderosa pine logs from the Valley in the future may induce local manufacturers to use smaller diameter logs, thus lowering trucking costs and increasing profit margin. However, at this time, sellers of Valley pine logs under 12 inches in scaling diameter do not realize profits comparable to those from other conifer species in the Valley.

It is an exceptional case when a Douglas-fir or whitewood log satisfies the size requirement (12 inches minimum scaling diameter for both #2 fir logs and #4 pine logs) and exterior characteristics of a #2 Sawmill, and yet is not assigned that grade due to the scaler's determination that the log will not satisfy recovery requirements.

Ponderosa pine is just the opposite. A large percentage of Valley pine logs 12 inches and larger in scaling diameter will be downgraded to a #5 Sawmill for failure to yield 50 percent or more of the net scale in the form of #2 Common boards.

Managing the loose knot problem

Dead limbs are the culprit. In ponderosa pine, the consequence of dead limbs is encased knots (loose knots) within the bole of the tree. Loose knots are not allowed in #2 Common pine lumber.

EXHIBIT 3-2

March 7, 2006

To: LCPC
From: Jerry Kendall/LMD JK
Re: Ogle PA 05-5985/response to 3 inquires

LAND MANAGEMENT DIVISION
http://www.LaneCounty.org/PW_LMD/

At the hearing of February 21, the PC requested that staff research and respond to three items.

Each item is described in **boldface font** below, as I heard it posed at the hearing, with the response following.

1. The issue of the "grasslands" area which comprises approximately 1/3 (24 acres) of the proposed ML. Basically stated, the applicant does not count this as productive land, whereas the opposition states it has to be counted. The forester noted that these areas are south facing, with summer surface temperatures reaching 140 degrees. Although advised by Mr. Farthing of the '97 BCC guideline favoring on-site analysis by a qualified forester, the PC wants to know if there any legislative or court case rulings on this topic. I will ask Legal Counsel about this also.

Response: There is no legislative history or case law which serves to provide a succinct answer to the question of how this item is to be resolved.

There are currently only two LUBA cases on Marginal Lands proposals, both from Lane County. One is the *Ericsson* case (*DLCD v. Lane County*, 23 Or LUBA 33 (1992)), the other being the *Carver* case (*Just v. Lane County*, 49 Or LUBA 456 (2005)). Both of these cases were provided to the PC by Mr. Farthing at the hearing.

There are other, related cases, dealing with Nonresource land proposals. These include:
- *Whetherell et al v. Douglas County* (LUBA No. 2005-045, 9-8-05)
- *Whetherell v. Douglas County* (LUBA No. 2005-075, 9-30-05)
- *Emmons and LandWatch Lane County v. Lane County* (LUBA No.2004-111, 2-2-05, commonly known as the *Grant* case)

Also looked at was a case for a forest "template" dwelling, *Carlson v. Benton County (LUBA No. 96-105, 2-6-98),* dealing with forest soils productivity.

These cases are available for review on the LUBA website: http://luba.state.or.us/.

While these cases do not directly address the issue raised above, they do discuss case specific circumstances which may assist the Planning Commission in seeing how LUBA has treated these issues, which in turn may assist the Planning Commission and, in turn, the Board of Commissioners in making a decision for the current application.

The PC may recall that I stated at the hearing that staff analysis of conflicting evidence was to be limited. Between now and the deliberation date of April 4, LMD staff is planning to meet and discuss this "analysis" issue in depth. The outcome of that meeting will, in large part, dictate the level of staff comment on the above cases on April 4.

2. Related to the above, Comm. Becker cited an apparent discrepancy in documentation provided by the Applicant's agronomist (Mr. Caruana) and his forester (Mr. Setchko) in regards to the #107C Philomath soils in the area near the juncture of the two powerline easements, known as the "Gumby" area because of its shape. On p.11, table 14 of his submittal, the agronomist provides auger hole and back hoe pit test results. The agronomist notes that the 107C soils have a published depth of 14", while the test samples range from 14" to 56". He states that the "...pattern of forest cover on the property was found to follow closely the presence of deeper soils on the property" (p.12). The PC noted that such is not necessarily reflected on table 14, as, for example, it notes grass present on 40" deep soil, and trees on 14" deep soils. Mr. Caruana explained that the discrepancy was caused by localized inclusions. The forester, on the other hand, maintains that the approximate 24 acres of 107C grasslands are not productive due to shallow soil depths and high summertime temperatures. The PC requested staff to advise them on this issue (in conjunction with soils scientist Kathi Wiederhold of LCOG).

Since this particular inquiry was raised by Comm. Becker, I emailed him the above text and asked if it accurately portrayed the question. Comm. Becker's response follows:

Jerry--Your description of question under #2 is correct. My main concern is not with the grassland area but with 107c. As you note, the soil scientist has site specific information which indicates that 107c is more productive than what Setchko describes in his report. Setchko's calculations are based on the soil type limited to a 14 inch depth, while the soil pits indicate that 70% of these pits are well deeper than 14inches-thereby enhancing AWHC and other soil nutrient issues related to clay and clay loam soils--greater cation exchange capacity, etc. So we need some good advice regarding how to handle this discrepancy--especially when 107c is about 40% of the parcel soils and certainly affects productivity calculations. In my opinion the new info on soils really affects the overall "marginality" of the parcel and you should take a look at staff recommendation with the new info and validate your recommendation.

Response: Refer to the attached memo dated March 6 from Ms. Wiederhold. She concludes that since the test sites do not offer quantitative acreage information (i.e., the extent of the soils of a particular depth), no conclusion can be made as to how that information affects the overall productivity rating of the subject property. In turn, since the Caruana/Setchko information does not change the productivity ratings provided in the original submittal, staff recommendation has not changed.

3. A neighbor in opposition, Mr. Ulloa, mentioned a statement made by (?) the former landowner or consultant to the effect that after the north 40 acres was rezoned to ML in 1992, that no further rezones would occur. Staff was requested to include that statement into the record and to comment on it.

Response: See attached staff memo dated 2-28-06. It concludes that the statement(s) made do not inhibit the Applicant from requesting the present Plan Amendment/Zone change.

KENDALL Jerry

From: Jim Just [goal1@pacifier.com]
Sent: Monday, March 13, 2006 5:57 PM
To: KENDALL Jerry
Cc: SEGEL Lauri (SMTP); Jan Wilson
Subject: Ogle response

Jerry,

Attached is Goal One's response to Farthing's submittal of March 7. Please enter this into the record, and confirm.

Thanks for your help.

Jim Just, Executive Director
Goal One Coalition
39625 Almen Drive
Lebanon, OR 97355
phone: 541.258.6074
fax: 541.258.6810
www.goal1.org

Goal One *is* Citizen Involvement

PC#10 - 4 pp.

Lane County Planning Commission
125 E. 8th Avenue
Eugene, OR 97401

March 14, 2006

RE: Ogle-Childs marginal lands application, PA 05-5985; reply to applicant's material dated March 7, 2006

Dear Members of the Commission,

The Goal One Coalition (Goal One) is a nonprofit organization whose mission is to provide assistance and support to Oregonians in matters affecting their communities. Goal One is appearing in these proceedings at the request of and on behalf of its membership residing in Lane County. This testimony is presented on behalf of Goal One and its membership; LandWatch Lane County, 1192 Lawrence, Eugene OR 97401; LandWatch's membership in Lane County, specifically to include LandWatch President Mona Linstromberg, 87140 Territorial Rd, Veneta OR 97487; and Jim Just, 39625 Almen Drive, Lebanon OR 97355, as an individual.

The purpose of this letter is to respond to material submitted by the applicant's representatives submitted March 7, 2006

I. Board of Commissioners' 1997 Marginal Lands Direction

The applicant's representatives persist in relying on the March 1997 *Supplement to Marginal Lands Information Sheet* as providing authority for interpretation and administration of ORS 197.247. The Planning Commission may not rely on this document for guidance. Rather, the Planning Commission must refer to the statute itself.

As LUBA has explained, Lane County guidelines not incorporated into the county's comprehensive plan or land use regulations do not substitute for the actual analysis required by applicable state law. *Johnson v. Lane County,* 31 Or LUBA 454 (1996).

II. Soils information

The applicant's representative summarizes the findings of Mr. Caruana as follows:

> "In short, the areas of the subject property that have trees also have deeper soils while the areas that do no[t] now and likely have never supported trees are characterized by shallow or no soils."

This summary mischaracterizes Mr. Caruana's conclusion and is not supported by Mr. Caruana's data. That data confirmed the mapping as reported in the Soil Survey. Mr. Caruana found *no* soils on the property shallower than eight inches. At only one sample site

out of the twenty sites examined was the soil found to be shallower than the 14 inches which is reported by the Soil Survey as average for the Philomath units. Mr. Caruana's data shows that trees on the site grow where the soils were shallower, and even on the shallowest soil, only eight inches in depth. Conversely, Mr. Caruana found grass cover even on the deepest soils. No correlation was established between depth of soil and vegetative cover. No data whatsoever was provided relating depth of soil to productivity for timber in cf/ac/yr. Mr. Caruana's data establishes conclusively that trees in fact grow on the site in Philomath soils; that the soils on the property are not particularly shallow, and in fact are deeper than normal for Philomath soils; and that trees grow on the Philomath soils on the property, even in areas where the soils are as shallow as eight inches.

The data provided by Mr. Caruana does not support Mr. Setchko's conclusion that the soils in the "grassland area with exposed rock" have zero productivity for timber. Mr. Caruana's data confirms that this area contains the same Philomath soils as are found in timbered areas, and that these soils are at least as deep as the average depth for the Philomath units as reported in the Soil Survey. Mr. Caruana has made no findings that the potential productivity for these soils for ponderosa pine is other than as reported in available publications or as measured on-site by Mr. Setchko.

III. Setchko report dated March 1, 2006

Mr. Setchko has provided a supplementary analysis of forest productivity and income, dated March 1, 2006.

Mr. Setchko complains that the Goal One letter dated February contains a table showing a site index for the Philomath units for ponderosa pine of 104 and a cf/ac/yr productivity of 154. The publication reports a 50-year site index, which must be converted to a 100-year site index as the available tables for converting site index to cf/ac/yr productivity are based on a 100-year site index. No tables or other means are available to simply, directly, and accurately convert a 50-year site index for ponderosa pine to a 100-year site index. The figures used in the table were arrived at by using the height and age measurements to directly arrive at a 100-year site index. The productivity in cf/ac/yr is then taken from the Meyer 100-year table.

However, the important point is: *it doesn't matter*. The results from Goal One's table using published productivity data for ponderosa pine were not used in any of Goal One's calculations or conclusions regarding the productivity or income potential of the subject property. Instead, Goal One's conclusions rely entirely on the productivity data for ponderosa pine provided by Mr. Setchko.

Mr. Setchko's analysis continues to assume a 50-year growth cycle. As mentioned previously, the Planning Commission cannot base its decision on this assumption. Rather, it must look to the statute itself. That statute, and its legislative history, mandates the use of objective data and management practices oriented towards maximizing productivity and income objectives. Less than optimal management practices and assumptions are not to be rewarded. As Mr. Setchko's own analysis has confirmed, assuming a 60-year growth cycle for Douglas-fir would result in at least a 27.2% greater return over the growth cycle.

Mr. Setchko also uses a 50-year growth cycle for ponderosa pine. NRCS information establishes that CMAI for ponderosa pine is 40 years. The Meyers table shows that a site with

a site index of 104 for ponderosa pine is capable of producing 110 cf/ac/yr at CMAI. Mr. Setchko has calculated and assumed productivity of 108 cf/ac/yr. While the difference is not large, assuming a 40-year growth cycle rather than a 50-year cycle does result in greater productivity. As the statute requires an inquiry into potential productivity, the analysis must consider maximum potential productivity.

The income test established by ORS 197.247 asks whether the subject property was capable of producing an average gross annual income of $10,000 or more, averaged over the growth cycle. While Goal One's calculations have used average prices over the January 1, 1978 – December 31, 1982 period, it may be that another approach is allowed or even mandated by the statutory language. Other factors being equal, a forest manager would harvest more aggressively when prices are high and harvest less aggressively when prices are lower. In determining what level of income an operation was capable of generating, it is appropriate to look at maximum prices over the relevant period and assume that harvest occurred so as to return the greatest income. Assuming that harvest occurred in late 1981 would result in an income 9% greater than a calculation using average prices over the January 1, 1978 – December 31, 1982 period.

Mr. Setchko is incorrect in stating that the statute requires that only trees that are merchantable today need be considered. Rather, the statute "looks back in time." As ODF log price records confirm, there was in fact a market for ponderosa pine over the relevant period.

Finally, Mr. Setchko's reliance on a return on investment type analysis is not warranted. The statute clearly refers to "gross income." It is well established in case law that profitability or return on investment are not considerations relevant to any inventory of forest lands or to any determination of whether forest uses are practicable.

IV. Conclusion

The *Ogle Property Soil Report* confirms NRCS soil mapping and soils data, in particular regarding the Philomath units. The only objective productivity data available for the Philomath soils shows that these soils are productive for ponderosa pine. There is no evidence in the record which would support a conclusion that the productivity of the "grassland with exposed rock" area is zero.

Mr. Setchko's assumptions of a 50-year growth cycle and his use of 1983 pricing undermines his conclusions regarding potential average annual income over the growth cycle. Assuming that potential productivity for "grass with exposed rock" areas is zero is not acceptable methodology.

Goal One and other parties whose addresses appear in the first paragraph of this letter request notice and a copy of any decision and findings regarding this matter.

Respectfully submitted,

/s/ Jim Just

Jim Just
Executive Director

Michael E. Farthing
Attorney at Law

Smeede Hotel Building
767 Willamette Street, Suite 203
Eugene, Oregon 97401
Office (541) 485-1141 – Fax (541) 485-1174
email - mefarthing@yahoo.com

March 14, 2006

03-14-06P03:15 RCVD

HAND DELIVERED

Lane County Planning Commission
% Jerry Kendall
Land Management Division
Lane County Courthouse/Public Service Building
125 East 8th Avenue
Eugene, OR 97401

Re: Marginal Lands Plan Amendment Application
Tax Lots 303 and 304, Map No. 18-04-11
(Ogle-Childs)

Commissioners:

This letter responds to the written materials submitted by various people, including opponents to the above-referenced application. First, there is enclosed a response prepared by Stephen Caruana of Agronomic Analytics to the written materials submitted by Goal One Coalition. Mr. Caruana reemphasizes the point that is made by Mr. Setchko, the applicant's forester, which is that large areas of the Subject Property (24 acres +/-) are characterized by shallow soils, steep slopes, and lack of water and southern exposure, all of which contribute to this area's inability to grow any kind of vegetation other than grasslands. Nothing has been submitted into the record by Goal One Coalition or any other party that refutes or contradicts that conclusion. Mr. Caruana also points out Goal One's flawed analysis of his report and the conclusions that can be made from the data in his first report.

We believe Ms. Wiederhold's memorandum confirms, implicitly, the conclusions reached by both Mr. Caruana and Mr. Setchko. Most importantly, however, is the fact that her analysis and information does not dispute or contradict any of those conclusions.

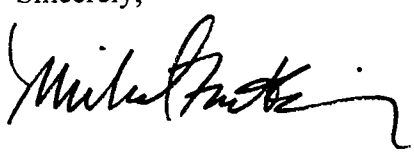
Finally, we believe Mr. Kendall's memo to the file, dated February 28, 2006, and his March 7, 2006 memorandum to the Planning Commission provide accurate responses to and comments regarding questions from members of the Commission. The note on the partition plat which created the subject property (PA 3826-92) is accurate and also irrelevant to the current application. There is no present restriction or covenant that prevents further land division of the Subject Property as a result of this plan amendment being approved.

PC #11 – 4 pp.

As for his comments regarding the Ericsson, Just, and Wetherell cases, I believe his reference to them is appropriate and I urge you to review them. I believe they, together with the Board of Commissioners' 1997 Interpretation of the Marginal Lands statute, provides a good legal context in which to evaluate the sufficiency of the evidence in this case.

We look forward to submitting a final rebuttal statement which hopefully will summarize and discuss the major points of this application and the testimony submitted in opposition thereto.

Sincerely,



Michael E. Farthing

MEF/alp

Enclosure

cc: Brad Ogle (w/encl.)
Marc Setchko (w/encl.)
Stephen Caruana

Stephen Caruana
3419 Chaucer Way
Eugene, OR 97405
Telephone: 541-684-8000
Email: caruana@integra.net

Agronomic Analytics

March 12, 2006

Lane County Planning Commission
125 E. 8th Avenue
Eugene, OR 97402

Re: Ogle-Childs marginal lands application, PA 05-5985; response to Goal One Coalition Testimony

Dear Members of the Commission:

This communication is in response to issues raised by the Goal One Coalition as a result of the testimony provided by *Agronomic Analytics* in support of the above referenced application. The testimony was provided in both oral and written form. Only issues raised in the *Ogle Property Soil Report* (Report) by the Goal One Coalition (Coalition) will be addressed in this communication.

For the record, the correct spelling of my name is 'Caruana' not 'Carnuana' as presented by the Coalition.

The essence of my testimony presented here is that the Coalition has drawn a faulty, misinterpreted, and statistically invalid conclusion from my Report.

On Page 2, paragraph 2 of the Coalition's testimony, they cite my report with reference to the 16 sample sites examined on the soil mapped as Philomath. The Coalition derived an average depth of 29.5 inches for these 16 sample sites. This value is not reported *by Agronomic Analytics*. This is a statistically meaningless value to cite. The only statistically valid method to determine the average soil depth or any other soil factor would be to conduct a sampling procedure following a recognized protocol. An example of this would be to sample the site on a grid pattern, with a sample taken every 25 to 100 feet or as determined by the degree of precision and accuracy desired. On a 25 foot grid sample, this would require over 5,000 samples. Obviously such a sampling would be time consuming and cost prohibitive. The goal of the survey conducted by *Agronomic Analytics* was to determine if soil factors were influencing the presence or absence of trees on the property.

On the Ogle property a less intensive method was chosen in order to characterize the pattern and occurrence of vegetation observed. Sample sites were chosen not in order to produce an average soil depth corresponding to either the lowest or highest possible values, but in order to determine if the natural soil factors were influencing the observed occurrence of vegetation on the property.

On the Philomath soils of the property we observe the presence of grasslands and trees, shallow soils and deeper soils. Although both vegetation types occur across the varying soil depths from shallow to deep, in general the pattern appears to be that grasslands occur on the shallower soils and trees occur on the deeper soils. Where grasses occur on deeper soils as in AH # A then there is also a presence of younger trees indicating that it may be revegetating to

trees; whereas those sites with shallow soils and grasslands show no evidence of encroaching younger trees and development of a forest canopy. In addition the large grassy area predominantly mapped as 108F shows no history of forest cover as far back as accurate records and aerial photography reveal.

The production of any crop – whether corn or Douglas fir is always a question of both soil capability and economics. If the cost of production exceeds the value of the product then a wise manager and his banker are likely find other avenues for investment. The fact that a large area of this property is characterized by shallow soils, a hot, dry aspect, and severe competition may make it cost prohibitive to attempt to establish a commercially viable timber stand.

On those areas where trees are present the question becomes are they commercially viable trees? This question I believe is adequately addressed in the Forester's testimony.

Respectfully submitted,

Stephen Caruana
Agronomic Analytics

Michael E. Farthing
Attorney at Law

Smeede Hotel Building
767 Willamette Street, Suite 203
Eugene, Oregon 97401
Office (541) 485-1141 – Fax (541) 485-1174
email - mefarthing@yahoo.com

March 21, 2006

HAND DELIVERED

Lane County Planning Commission
% Jerry Kendall
Land Management Division
Lane County Courthouse/Public Service Building
125 East 8th Avenue
Eugene, OR 97401

Re: Marginal Lands Plan Amendment Application
Tax Lots 303 and 304, Map No. 18-04-11
(Ogle-Childs)

Commissioners:

This letter is the final rebuttal statement of the applicants for the above-referenced application for Marginal Lands plan amendment and zone change. With the application and its exhibits, comments by neighbors, opponents and staff responses back and forth thereafter, you have a significant amount of information to review and consider. However, from all of this there really are only two issues that are being contested and both involve whether the Subject Property is "capable of producing" (1) an average, "over the growth cycle", of $10,000 in annual gross income from a forest operation (ORS 197.247(a)) or (2) 85 cubic feet of merchantable timber per acre per year (ORS 197.247 (b)(C)).

The Record

The Applicants have submitted reports from Marc Setchko, a professional forester, which address both of these standards. Mr. Setchko concludes that even under the most optimal conditions, which he also notes is not realistic or possible, the Subject Property would not sustain tree growth that would meet either of these standards. Mr. Setchko has also submitted information that discusses and refutes the analysis of these standards submitted by Mr. Just on behalf of Goal One Coalition. We urge you to carefully review Mr. Setchko's reports.

In addition to Mr. Setchko's materials, you have a detailed report prepared by Stephen Caruana, a qualified soil expert, which particularly addressed the soil properties and characteristics for the Philomath soil (107C and 108F) including the large grassy area within the Subject Property. His initial conclusions are summarized on page 2 of his report and are very

PC #12- 8pp.

consistent with Mr. Setchko's analysis and observations. Mr. Caruana also provided a supplement to his report, dated March 12, 2006, which responds to some of the erroneous conclusions and assumptions that were made by Mr. Just in his various submittals and responses and reaffirms his primary conclusions.

The chief opponent of this application, Jim Just and the Goal One Coalition, have submitted three letters (February 1, March 7 and March 14) identifying alleged errors and problems with Mr. Setchko's and Mr. Caruana's analyses. Both Mr. Setchko and Mr. Caruana have pointed out the flaws and errors in Mr. Just's assertions. As part of this rebuttal, I have attached copy of an e-mail from Mr. Caruana, marked Exhibit "A" which addresses misstatements made by Mr. Just in his March 14 submittal. They are numerous and I urge you to review those responses which are detailed and explicit.

Suffice to say that Mr. Just is neither a qualified forester or a soil scientist. He is a concerned citizen who juggles and mixes the available data into a mishmash of statistics that have no factual or legal basis. For example, his insistence that the Board's 1997 Interpretation of the Marginal Lands criteria be ignored is completely wrong. It does not matter whether that Interpretation has been incorporated into the comprehensive plan or Lane Code. It is Board policy that directs County staff and applicants how to address the Marginal Lands criteria. Unless and until it is overturned by LUBA, LCDC or an appellate court, it is how the Board wants the Marginal Lands criteria to be addressed. Therefore it is relevant and applicable to this application which means, among other things, that a 50-year growth cycle and 1983 log prices are to be used in assessing the accuracy of Mr. Setchko's and Mr. Just's respective analyses. See *Just v. Lane County* (June 8,2005, LUBA No. 2005-029, sl op at 4-6).

Planning Commission Questions

Several questions and comments were raised by members of the Commission which should be addressed. Mr. Kendall responded, in part, in his March 7 memorandum to the Planning Commission. The following is my response to those topics and others that were raised.

1. "Grassland with exposed rock"

Mr. Setchko has identified an area of approximately 24 acres which he has identified as "grassland with exposed rock" and assigned a 0 productivity figure to these areas. See Application, Ex J, pgs 10-11. In his supplement to his initial report, Mr. Setchko provides a page-long explanation of why he did not believe this area was capable of sustaining any type of tree growth. Copy of that explanation is attached as Exhibit "B".

In his March 7 memorandum, Mr. Kendall refers to several LUBA cases that address

forest productivity calculations both in the context of Marginal Lands applications and other land use requests involving forest land capability. I urge you to read them all but for purposes of this application, I believe DLCD v. Lane County (Ericsson) 23 Or LUBA 33 (1992) is the most instructive and relevant. In that case, the Lane County Board of Commissioners approved a Marginal Lands plan amendment that was based, in large part, on the site-specific report prepared by a qualified professional forester. LUBA affirmed that approval and commented favorably on the Board's findings that were based on that site specific analysis. Published soil tables were not ignored but they were viewed as a starting point.

There is nothing in the Marginal Lands statute (ORS 197.247), Lane Code or LCDC regulations (OAR 660, Division 4) that requires strict adherence to published soils surveys when addressing and applying the Marginal Lands income and productivity standards. Both of these criteria are couched in terms of what the property is "capable of producing" with regard to merchantable timber. In the Ericsson case, LUBA specifically addressed this standard and held:

> "The parties disagree about what is meant by the ORS 197.247(1)(a) phrase 'capable of producing.' In this context, the choice of the word 'capable' requires the application of an objective test in determining a parcel's potential productivity. In other words, that a particular forest operator may use poor management techniques, and thereby cannot produce the requisite income from the parcel over the growth cycle, would not establish that a parcel was not 'capable' of producing the requisite income level over the growth cycle. The statutory requirement that the land be 'capable' of producing the specified annual income 'over the growth cycle' requires an evaluation of the income potential of the property assuming the utilization of reasonable forest management practices over the growth cycle."

(emphasis supplied) 23 Or LUBA at 36. The opinion of a qualified professional forester is what LUBA accepted as the best evidence of what that property was "capable of producing".

Similarly, this is what has been measured and addressed for this application by Mr. Setchko. The Philomath soils series has no published productivity factor but Mr. Setchko assigned a 110 ev. ft/ac./yr. productivity factor to some of the areas with the Philomath soils based on his findings of Ponderosa Pine growing on the site. However, according to Mr. Setchko, trees will not grow in either area with the same soils due to shallow (or nonexistent) soils, south slope, lack of water and soil nutrients. Mr. Setchko has personably tried to grow trees in similar conditions on his own property and the conditions simply do not support tree growth, whether it be Douglas Fir or Ponderosa Pine. There is nothing in the record that refutes or contradicts Mr.

Setchko's conclusion in this regard. It is the best evidence, by far, of what the overall productivity is for these areas. Mr. Caruana's reports confirm Mr. Setchko's conclusion. Mr. Caruana observed the same conditions that Mr. Setchko witnessed and acknowledged that these condition will not support tree growth.

2. "Becker comment re: deeper soil inclusions in Philomath 107C mapped areas"

Commissioner Becker noted that Mr. Caruana's report identified deeper soil inclusions within the areas mapped as Philomath 107C and inquired if that was inconsistent with Mr. Setchko's analysis of the productivity of this particular soil type. It should be noted that Mr. Caruana concluded that his study of these areas did not, in his opinion, warrant reclassifying the soils in these areas.

While it is true, as Commissioner Becker noted, that a substantial amount of the Subject Property contains the 107C soil type, Mr. Setchko did not include all of this area within his category of "grassland with exposed rock". Again, in his calculation of the property's cubic foot/ per acre/ per year productivity, Mr. Setchko identified 16.389 acres with this soil type as having a growth potential of 110 cu/ft/ac./yr even though the published soils data from Lane County had no cu./ft/ac./yr. rating for the Philomath series. See Original Application, Setchko Report, Exhibit "J", p 20, copy attached hereto as Exhibit "C". In other words, the areas that had deeper soils and other conducive growing conditions within the Philomath soil type were assigned by Mr. Setchko a fairly healthy growth potential.

The other explanation for reconciling Mr. Setchko's report and Mr. Caruana's test pit results is that soil depth is just one factor influencing productivity. As Mr. Setchko discusses (and Mr. Caruana confirms), other factors like aspect, steepness, moisture content, exposure, etc. also influence productivity. See Original Application, Setchko Report, Exhibit "J", p 9. All of these variables are at work in producing an average profile for each particular soil type. Again, in this case, the soil classification is general and is superceded by on-site observation.

3. "1992 Marginal Lands Rezone."

The notes on the partition map for the 1992 Marginal Lands application are accurate but irrelevant to this application. Nothing in that plan amendment or subsequent partition of the 113 acre parcel precludes a new owner, like the present applicants, from applying for a plan amendment for the remaining 73 acre site.

4. "Water availability"

One of the Commissioners asked about water availability at the first hearing. The original application includes an exhaustive analysis of well logs in the area (See Original Application, Exhibit "L"). It was prepared by a registered professional geologist, Phillip Stallings. It concluded that "the aquifer beneath the Subject Property can accommodate nine domestic use wells at normal or peak usage." This report was reviewed and accepted by the Water Resources Department and County staff. There is no conflicting or contradictory evidence in the record. The Planning Commission has substantial evidence to conclude there is adequate ground water to supply the maximum number of dwellings that would be allowed by this plan amendment.

Summary

There is substantial and credible evidence in this record to support this plan amendment. The Subject Property is marginal farm and forest property. It is not good resource land. On the other hand, it is particularly qualified as marginal land and we urge you to recommend to the Board of Commissioners that they approve both the plan amendment and zone change applications.

Sincerely,

Michael E. Farthing

MEF/alp

Enclosure

cc: Brad Ogle
Marc Setchko
Stephen Caruana

YAHOO! MAIL

Print - Close Window

From: "Stephen Caruana" <caruana@integraonline.com>

To: "Michael E. Farthing" <mefarthing@yahoo.com>

CC: "Brad Ogle" <BuilderBradOgle@msn.com>

Subject: Comments

Date: Sun, 19 Mar 2006 14:44:29 -0800

Mike,

I received a copy of the comments made by Goal One dated 3/14/06.

On page 2 in the 2nd paragraph, they state "Mr. Caruana's data confirms [sic] that this area contains the same Philomath soils as are found in the timbered areas..." I do not believe that this was my conclusion, I believe my conclusion was that the although the soils present either matched the described series or its inclusions, the forested areas predominantly occurred on the deeper inclusions.

The other major point seems to be a question of quantifying the extent of shallow soils. Do you need me to further quantify the actual acreage of shallow soil? If so, then let's decide. I'm not sure how much more field work that would entail, or how much we might be able to determine from the aerials. Perhaps Mark and I could sit down with the maps and draw some conclusions.

Goal One also seems to imply that the shallow soils are as productive as the deeper. I don't know where they got that idea. I believe I clearly state that soil depth has a profound influence upon moisture holding capacity and on other factors.

Call me to discuss.

Stephen Caruana

EXHIBIT A
Page 1 of 1

The final point to be discussed in brought up on Page 3, under the discussion of soils with zero productivity. Mr. Just states that I have excluded approximately one third of the property from my analysis, assuming "zero" productivity for tree growth. He further states that SCS and NRCS soil maps show these areas as being underlain by the Philomath soils. He then states that I have "invented" a new soil. All I have done is make the observation that no trees have grown in these areas for decades (as shown on the attached aerial photos), no trees are growing there now; therefore, these areas have no productivity from a tree growing standpoint.

I am basing my analysis on 30 years of experience, as a certified professional forester, and years of personal experience on similar properties. The most recent example of personal experience with this type of property is one that I owned with a partner until 2004. The property had similar soil types to the Ogle property, thin soils over rock with exposed rock, a southwest aspect, and grass. We planted ponderosa pine in this area (≈15 acres) **three** times; to date only a handful of trees have survived. Just because the soil map says a certain soil exists in an area does not mean it will support trees. Productivity figures for a soil type are averages taken over a wide range of sites. If the site is similar to the average site, the productivity of trees growing on the site will match the tables. However, there are many areas of the countryside overlaid with productive soils that have no trees. Conversely, there are areas of poor soil that do support trees.

There are many reasons for this. Thin soils do not provide enough rooting depth. Soils on a south slope can reach lethal temperatures in the surface layer, sometimes reaching above 140°F in the summer months (see page 7 and 8 of soils report by Mr. Caruana). Increased soil temperatures result in less moisture. With little moisture retention, and hot soil temperatures, these thin soils (on top of rock), will not support tree growth. This same soil, with a deeper soil depth, on a north slope, may support trees very well. Trees grow well on north slopes because of natural shading, which helps moisture retention and keeps soil temperatures low, which dramatically improves a tree's chance of surviving and establishing itself.

Another very important factor is the **difference** between **soil depth** and **effective depth.** Soils which are approximately 10" or less are extremely difficult, if at all possible, to establish trees in. Deeper soils, under ideal conditions, will readily support tree growth. However, **absolute** and **effective** soil depths are not necessarily the same. A high water table, toxic substances, an impervious layer, high rock content or steep slopes are factors which decrease the **effective** soil depth and decrease productivity. In many cases the conditions which decrease the effective soil depth are not sufficient to overcome the absolute soil depth. The result is areas of soil which will not grow trees. Practicing foresters are trained to look for areas such as these and adjust their management practices accordingly. If I have **repeatedly planted** an area with seedlings, over the course of several years, with no (or very little) survival, I make the assumption that the area is nonproductive. I will not, and will not advise a client, to continually plant an area because a map states that the soil (which may or may not be the actual soil there) is productive. At some point, a prudent tree farmer, company forester or consulting forester, makes the decision that the soil in nonproductive.

The primary point of this discussion is that all of these factors have a huge influence on tree growth. The same soil will have radically different growth rates, depending on the aspect, soil depth, elevation and latitude. A north aspect will have much better growth than a south aspect, trees grow better in deeper soils and higher moisture conditions. The further north (in latitude) you go, the better trees grow, because the rainfall increases. The only case where this is not so is when you get to the far north (Alaska and the Arctic Circle), because the extreme cold and harsh conditions inhibit growth.

In short: **soil type** is only **one** environmental factor influencing growth. Mr. Caruana will discuss all of these factors in detail; I am simply stating what I have observed during 30 years as a practicing forester.

Lane County Soil Ratings for Forestry and Agriculture

Map Symbol	Lane County Soil Map Unit	Douglas Fir Site Index	Cu. Ft./ Acre/ Year	Agricultural Capability Class	High Value Farmland
97	Newberg-Urban land complex	none		2	X
98	Noti loam	none		4	X
99H	Ochrepts & Umbrepts, very steep	none		--	
100	Oxley gravelly silt loam	none		3	
101	Oxley-Urban land complex	none		3	
102C	Panther silty clay loam, 2 - 12% slopes	none		6	
103C	Panther-Urban land complex, 2 - 12% slopes	none		6	
104E	Peavine silty clay loam, 3 - 30% slopes	125	184	6	
104G	Peavine silty clay loam, 30 - 60% slopes	125	184	6	
105A	Pengra silt loam, 1 - 4% slopes	none		3	X[1]
106A	Pengra-Urban land complex, 1 - 4% slopes	none		3	
107C	Philomath silty clay, 3 - 12% slopes	none		6	
108C	Philomath cobbly silty clay, 3 - 12% slopes	none		6	
108F	Philomath cobbly silty clay, 12 - 45% slopes	none		6	
109F	Philomath-Urban land complex, 12 - 45% slopes	none		6	
110	Pits	none		8	
111D	Preacher loam, 0 - 25% slopes	128	190	6	
111F	Preacher loam, 25 - 50% slopes	128	190	6	
112G	Preacher-Bohannon-Slickrock complex, 50 - 75% slopes	***	188	7	
113C	Ritner cobbly silty clay loam, 2 - 12% slopes	107	149	4	
113E	Ritner cobbly silty clay loam, 12 - 30% slopes	107	149	6	
113G	Ritner cobbly silty clay loam, 30 - 60% slopes	107	149	7	
114	Riverwash	none		8	
115H	Rock outcrop-Kilchis complex, 30 - 90% slopes	***	27	8	
116G	Rock outcrop-Witzel complex, 10 - 70% slopes	***	none	8	
117E	Salander silt loam, 12 - 30% slopes	125	184	6	
118	Salem gravelly silt loam	none		2	X
119	Salem-Urban land complex	none		2	X
120B	Salkum silt loam, 2 - 6% slopes	116	167	2	X
121B	Salkum silty clay loam, 2 - 8% slopes	116	167	2	X
121C	Salkum silty clay loam, 8 - 16% slopes	116	167	3	X
122	Saturn clay loam	123	180	3	
123	Sifton gravelly loam	124	182	3	X
124D	Slickrock gravelly loam, 3 - 25% slopes	137	209	6	
124F	Slickrock gravelly loam, 25 - 50% slopes	137	209	6	
125C	Steiwer loam, 3 - 12% slopes	none		3	
125D	Steiwer loam, 12 - 20% slopes	none		4*	