W.7.C.

SUPPLEMENTAL MEMO

LANE COUNTY OREGON

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

DATE OF MEMO: June 1, 2004

TO: Board of County Commissioners

FROM: Jerry Kendall/JR Land Management Division

RE:) ORDINANCE NO.PA 1199-- IN THE MATTER OF AMENDING THE) RURAL COMPREHENSIVE PLAN TO REDESIGNATE LAND FROM) "AGRICULTURAL LAND" TO "NONRESOURCE", REZONE THAT) LAND FROM "E-30/EXCLUSIVE FARM USE" TO) "RR-5/RURAL RESIDENTIAL"; AND ADOPTING SAVINGS AND) SEVERABILITY CLAUSES (file PA 01-5875; Grant) (NBA & PM 3/31/04, 4/14/04)

Third reading and deliberation is set for June 9, 2004.

The Board held the public hearing for this matter on April 14, 2004. At the close of the hearing, the record was left open for written comments in the following manner:

- Until 5PM, April 28, for any party to comment on any aspect of the application.
- Until 5 PM, May 12, for any party to comment on materials received during the period above.
- Until 5 PM, May 26, for the applicant to submit his final rebuttal. The record then closed.

The following submittals were received, and are attached to this memo. Dates are for date materials were received:

1. 4-14-04; materials from Harry Taylor, applicant's agent, with attachments—41pp.
2. 4-14-04; letter opposed, Lauri Segel/1000 Friends—2pp.
3. 4-15-04; materials in opposition from Jim Just/Goal One Coalition, with attachments—46pp.
4. 4-28-04; materials from Harry Taylor, applicant's agent, with attachments—19pp.
5. 5-26-04; Applicant's letters of final rebuttal—11pp.

Staff comments on the submittals.
These comments represent a summary of the key points of dispute. They do not attempt to give a detailed description of the assignments of error in opposition to the request, or of the lengthily responses provided by the applicant and his consultants. Please refer to the submittals for such detail.

- Effect on resource land. As of the date of the hearing, staff had two primary unresolved issues with the application. One of the issues was in regards to RCP policy #19 of Goal 2, which gives the option of a five or ten acre density for Nonresource applications such as this. In evaluating which of the two densities might be justified, the applicant must address the impact of the proposed density on nearby resource land. With 30+ acres, the applicant would have the potential to subdivide into six parcels with the proposed five-acre density. Except for Rural Residential zoned land to the north, the subject property is adjacent to Exclusive Farm Use (E-30) zoned land. The applicant argues that an escarpment of approximately 10' in elevation separates the subject parcel from the adjacent farm zoned land along the east side. However, staff's field observation is that this escarpment diminishes to the south, offering little such separation. The agent has also provided a signed "farm management

agreement", which the applicant has agreed to finalize through recordation if approval of the rezone is granted. However, such agreement, in which the property owner and his successors agree to waive their common law right to file nuisance lawsuits for standard farm practices, is not viewed by staff as a way of guaranteeing "no effect" on resource land. Alternatives which the Board may consider are: denial of the proposal, reduction of density to a ten acre minimum, and/or imposition of a deed restriction on the future parcels to implement a 50' setback of residential structures from adjacent farm zoned land. If the Board feels any of these measures are necessary, the ordinance would need to be modified to reflect such.

- Soil productivity for forestry. The second concern voice by staff was the need to quantify the productivity rating for the *Sifton* soils. Up to the date of the hearing, the forestry consultant, Mr. Booth, had simply stated that the productivity rating for the *Sifton* soils was in error, without providing an alternative rating. The high 182 cu.ft./ac./year rating found in the *Soil Survey of Lane County Area, Oregon* (1987) was based on only two field samples of *Sifton* soils taken in Linn County. After consulting with NRCS (Natural Resource Conservation Service) staff, Mr. Booth examined on site characteristics of the subject property as well as researched other *Sifton* soil areas in Lane County (finding none of them to be productive), and concluded with a zero productivity rating for the *Sifton* soils. In addition, other data sources indicate that the two other soil types of the subject property have a zero forest capability rating. Refer to the April 14 submittal from Mr. Taylor for more information.

  Mr. Just of the Goal One Coalition (see his letter, received on 4-15-04) has submitted a comprehensive list of objections. They are discussed below.

- Goal 3 and Agricultural Land. Mr. Just maintains that the subject property meets the Goal 3 definition of "agricultural land", as the subject soils are predominantly Agricultural Class I-IV, and are "high-value" soils (see p.1-3 of his letter). The focus of Mr. Just's argument is that the *Sifton* soils, normally a Class IV soil, was improperly classified by soils scientist Gary Kitzrow as Class V. OAR 660-033-0030(6) allows for a more detailed soil capability than what is listed in the NRSC soil maps and surveys, provided such data "...be related to the U.S. Natural Resources Conservation Service (NRCS) land capability classification system." Using NRCS procedures coupled with on site observations, Mr. Kitzrow has provided such data. See also the applicant's final rebuttal of May 26.

- Suitability for Farm use. Mr. Just argues that even if the majority of the farm soils do not meet the definition of agricultural land for western Oregon, that the subject property is part of a "farm unit", in conjunction with the adjacent tax lot 600 (owned by the applicant's parents, and composed of better bottomland soils), and must be retained as agricultural land by virtue of being part of that farm unit (OAR 660-033-0020(1)(b)), and necessary to that farm operation. The applicant counters that common ownership is not a determinative factor in defining a "farm unit", and that farmers routinely lease farm land without the need for on site housing or farm buildings, such as are found on the subject property.

- Forest Productivity of Other Tree Species. In addition to taking issue with the productivity rating for the *Sifton* soils (discussed in the first item above), Mr. Just maintains that the potential productivity of tree species other than Doug fir must be evaluated. In addition, Mr. Just notes that "no rating" in the *Soil Survey of Lane County Area, Oregon* (1987) is not necessarily equivalent to a zero capability rating (see page 6-12 of the April 15 submittal). However, the applicant's forester, Mr. Booth, has provided such information (see his letters within the April 14 submittal, and in the final rebuttal of May 26), concluding a zero productivity rating for all the property's soils, regarding all common tree species.

- 50 Cubic Foot Standard. Mr. Just maintains that Lane County standards do not govern comprehensive plan amendments, especially in regard to the 1984 Board Order 84-9-12-3, which defines commercial forestland as having a minimal rating of 50 cu.ft./ac./year. While in theory true, It is noted that this standard has never been challenged in an appeal of a past Nonresource

application, and that the 20 cubic foot standard utilized by Mr. Just is derived from state law governing the Department of Forestry, and not more directly applicable land use related sources, such as Goal 4 or OAR 660, Division 6 (Forest Lands Rule).

- Other Goal 4 uses. Mr. Just cites part of Goal 4 that recognizes "other forested lands that maintain soil, air, water and fish and wildlife resources" should be retained as forest land (pages 16-20 of his April 15 submittal). However, the subject property is not inventoried as having any Goal 5 features, which warrant special protection. No protected flora or fauna is to be found on the property, nor any Class I streams. While it may be argued that any level of development diminishes the available amount of open space for wildlife, etc., no special protection of the subject property in this regard is seen as triggered under current state or local law.

- Lot Line adjusted Parcel. Mr. Just maintains that subject property, which underwent a lot line adjustment in 1998, did not comply with the requirements of ORS 92.190(3), and that a replatting was required. It is the LMD's view that this office does not regulate such adjustments, and that the final outcome of the adjustment was lawful. As the Board is well aware, this issue is currently before the Board for review. See also the applicant's response, found in a letter from Attorney Laurence Thorp (within the final rebuttal submittal of May 26).

- Goal 14. Mr. Just maintains (p.22-23, April 15 submittal) that granting of a five acre density would violate Goal 14 (Urbanization), suggesting that such density may be better suited within an Urban Growth Boundary. This assertion is contrary to the state acknowledged RCP policy 19 of Goal 2 (old policy 17), which limits Nonresource density to either five or ten acre densities.

- Lane Code Criteria. In summating his arguments, Mr. Just maintains that the proposal fails to meet the Lane Code criteria of LC 16.400 and LC 16.252 governing plan amendments and rezones. If the Board accepts his arguments on state law, then logic dictates that the local law would not be met. However, the applicant differs in his view of the state law, and, if found acceptable to the Board, the application is valid at the local level as well.

Conclusion: Staff recommends approval of the Plan amendment to Nonresource, and favors a five acre density provided that a covenant is recorded. This covenant (as mentioned in the first item) would limit structural setbacks to 50' from any adjacent farm zoned land.

Harry A. Taylor
Land Use Consultant
88275 Territorial Road
PO Box 1420
Veneta ,OR 97487
Office (541) 935-6202 E-mail:hatland@worldnet.att.net FAX (541)-935-4918

rec'd 4-14-04

April 13, 2004

Mr. Jerry Kendall, Associate Planner
Lane County Land Management Division
125 East 8th Avenue
Eugene, OR 97401

Re: Grant Plan Amendment/Zone Change PA 01-5875

Dear Mr. Kendall,

The purpose of this letter is to respond to your request for additional information indicated in your staff report to the Board of County Commissioners regarding the forest capability of the subject property ("the property") and the effect of the proposed residential density on adjacent resource land.

Please find attached to this letter: 1) email response from Steve Campbell, USDA-Natural Resources Conservation Service, 2) NRCS Forest Site Plot Standard Report of Site Index for the Sifton soil series in the state, 3) NRCS standard report of forest site index for Lane County, 4) two supplemental letters from the Applicant's consulting forester, Bob Booth, and 5) an original Farm Use and Forest Management Agreement ready for recording. Additional copies are attached for the Board's review. Please include these materials in the Applicant's record.

1. Forest capability.

The property is composed of three soil units: 29 Cloquato silt loam, 100 Oxley gravelly silt loam and 123 Sifton gravelly loam. The Cloquato and Oxley units are alluvial based soils with no listed forest capability. The forest capability of the Sifton unit, also an alluvial soil, was revised from 0 in the Soil Survey of Lane County Area, Oregon (1987) to 182 cubic feet per acre per year in the Lane County Soil Ratings for Forestry and Agriculture (1997).

The Soil Survey, page 250, indicates only 650 acres or less than 0.1 percent of Sifton soil is mapped in the entire county. In addition, none of the subject soils are listed in Table 6 - Woodland Management and Productivity as having a potential forest productivity. The NRCS was contacted to determine why the forest capability of the Sifton unit was so significantly revised.

Steve Campbell, NRCS, indicates the revised forest capability was solely based on the analysis of two Sifton plots located in Linn County. The state standard report, page 166, confirms

BCC ATTCH. #1 - 4/14.

no plot samples were taken in Lane County. As a result, the Linn County Sifton data was interpolated to apply to Lane County. The attached county standard report, pages 1-12, indicates neither the Sifton, Cloquato or Oxley soil units were sampled for forest capability.

Recognizing the general nature of the survey and its inherent limitations based on scale, Mr. Campbell suggested our consulting forester's site specific information be utilized as opposed to the data from the state standard report. Based on an examination of the site's characteristics and lack of forest producing sites on Sifton soil in Lane County, Mr. Booth concludes the overall forest productivity rating of all soils on the property is 0. See Mr. Booth's attached letters.

Further, the survey indicates the subject Cloquato, Oxley and Sifton units may include inclusions of Chapman, Chehalis, McBee, Newberg, Coburg, Courtney and Salem soils. None of these soils are listed as having a forest capability. Lastly, it should be noted neither the property or the immediate surrounding area consists of forest land or forest zoned lands. Surrounding lands are composed of either agricultural or rural residential used and zoned parcels.

2. Effect of proposed five acre density on adjacent resource land.

Rural Comprehensive Plan Goal 2, Policy #17 requires residential densities for non-resource lands shall be one residence per five or ten and shall be based on consideration of seven factors. The Applicant proposes a five acre density that would result in a total of six residences on the subject 30 acre parcel. The Applicant has previously addressed these factors and will not repeat those findings here, except to bolster two factors regarding the existing development pattern and density, and effect on resource lands.

The property is contiguous to the designated and acknowledged community of Walterville. Walterville is composed of two developed and committed exceptions, 525-1 and 535-2 located on either side of Highway 126. These exceptions total 228 acres with 110 dwellings located on 117 parcels. The average parcel size within the community is 1.9 acres. Residential parcels are zoned RR-2 and RR-5. The proposed RR-5 zoning is consistent with the existing development pattern and density of the contiguous community.

The Applicant farms approximately 70 acres zoned E-30 to the east, south and west consisting primarily of bottom land used for the production of a beet seed crop. The property is partially buffered from adjacent farm land by a 8-10 foot escarpment or break in the topography that provides a substantial natural separation between residential and farm uses.

Attached is the county's standard Farm Use and Forest Management Agreement signed by the landowners and Grantors, Jack and Beverly Grant. This document will be recorded in the Lane County Official Records subject to approval of the zone change request and expiration of all appeal periods. This easement acknowledges the subject property is located in a resource area. It waives all common law rights to object to normal, non-negligent farm use or forest management practices conducted on adjacent lands that may conflict with residential of the property. This easement is appurtenant to all heirs, successors and assigns of the subject property.

Regarding the density that would result from the proposed RR-5 zoning, the suggestion that having three residences on 30 acres rather than six will somehow reduce the amount of conflict with the adjacent farm operation is purely conjuncture. The Applicant submits there is no discernable difference. Neither the Rural Comprehensive Plan or Rural Residential zone provide standards for residential densities or separation of residential uses from resource lands.

In fact, many existing RR zoned lands in the county abut farm or forest zoned land, including the community of Walterville zoned RR-2 and RR-5, acknowledged by LCDC. If 10 acres next to any farm or forest zone is assumed to provide maximum protection, then it follows the county has created potential incompatible situations throughout the county by establishing RR-2 and RR-5 zoning next to EFU, F-1 and F-2 zoned lands. However, we doubt this to be true given the overall lack of compatibility problems or questions filed with the county as indicated by Jane Burgess, Zoning Enforcement Officer.

Unless a negative evaluation is identified, the RCP recognizes a five acre density is acceptable. No negative conditions have been identified. As previously proposed, the owners will record a Farm Use and Forest Management Agreement binding all future owners of lots within the property to recognize farm and forest management activities take precedent to residential uses.

In conclusion, the Applicant has demonstrated the property has no forest capability and the proposed five acre density, similar to other nearby lands, will be compatible with adjacent E-30 zoned lands.

Sincerely,

Harry A. Taylor

Enclosures: NRCS email
NRCS Forest Site Plot Data Standard Reports
Booth forestry letters (March 25, 2004, April 4, 2004)
Farm Use and Forest Management Agreement
Exceptions 525-1 and 535-2

cc: David Grant (w/enc)
Jack and Beverly Grant (w/enc)
Larry Thorp (w/enc)

FAR USE AND FOREST MANAGEMENT 'REEMENT

GRANTORS JACK A. GRANT and BEVERLY J. GRANT are the owners of real property as described on Exhibit "A", attached hereto. As a condition of zone change approval by the Board of County Commissioners for application PA #01-5875, Assessor's Map **17-01-28 tax lot 700, Grantors** hereby grant to the owners **(Grantees)**, of all property adjacent to the property described in Exhibit "A", a perpetual non-exclusive farm and forest practices management easement as follows:

1. The Grantors, the heirs, successors, and assignees acknowledge by the granting of this easement that the above described property is situated in a farm or forest resource area in Lane County, Oregon, and may be subjected to conditions resulting from farm use or commercial forests operations on adjacent lands. Such operations may include farm use as defined in ORS 215.203 and management and harvesting of timber, disposal of slash, reforestation, application of chemicals, road construction and maintenance, and other accepted and customary forest management activities conducted in accordance with Federal and State Laws. Said farm use and forest management activities ordinarily and necessarily produce noise, dust, odors, smoke and other conditions, which may conflict with Grantor's use of Grantor's property for residential purposes. Grantors hereby waive all common law rights to object to normal, non-negligent farm use or forest management activities legally conducted on adjacent lands which may conflict with Grantor's use of Grantor's property for residential purposes, and Grantors hereby give an easement to the adjacent property owners for the resultant impact on Grantors property caused by the farm use of forest management activities on adjacent lands.

2. Grantors shall comply with all restrictions and conditions for maintaining residences in farm or forest zones that may be required by State, Federal, and local land use laws and regulations. Grantors will comply with all fire safety regulations developed by the Oregon Department of Forestry for residential development within a forest zone.

This easement is appurtenant to all property adjacent to the above described property, and shall bind the heirs, successors, and assignees of Grantors, and shall endure for the benefit of the adjacent landowners, the heirs, successors, and assignees. The adjacent landowners, the heirs, successors, and assignees are hereby expressly granted the right of third party enforcement of this easement.

x Jack A. Grant
JACK A. GRANT (GRANTOR)

x Beverly J. Grant
BEVERLY J. GRANT (GRANTOR)

IN WITNESS WHEREOF, the Grantors have executed this easement on April 3, 2004

State of OREGON
County of Lane

Signed or attested before me on 4/2/04, by **Jack A. Grant and Beverly J. Grant**

Notary Public for Oregon
My Commission Expires: 12-14-06

After Recording Return to:

Jack A. Grant .and Beverly J. Grant
319 Country Club Road
Eugene, OR 97401

OFFICIAL SEAL
LINDA L. WINKLEPLECK
NOTARY PUBLIC - OREGON
COMMISSION NO. 363150
MY COMMISSION EXPIRES DEC.14, 2006

EXHIBIT 'A'

The Northeast one-quarter of the Southwest one-quarter (NE 1/4 SW 1/4) of Section 28, Township 17 South, Range 1 West of the Willamette Meridian, in Lane County, Oregon.

EXCEPT THEREFROM that portion lying Northwesterly of the Southeasterly line of the McKenzie Highway.

FURTHER EXCEPT THEREFROM the South 272.00 feet of the Northeast one-quarter of the Southwest one-quarter (NE1/4 SW 1/4) of Section 28,Township 17 South, Range 1 West of the Willamette Meridian, in Lane County, Oregon.

ALSO: Beginning at the Stone monument marking the Center Section corner of Section 28, Township 17 South, Range 1 West of the Willamette Meridian; thence along the east line of the Northeast one-quarter of the Southwest one-quarter of said Section 28, South 0 13' 40" East 224.00 feet to the TRUE POINT OF BEGINNING; thence continue South 0 13' 40" East 280.00 feet; thence North 89 46' 20" East 190.00 feet; thence North 0 13' 40" West 280.00 feet; thence South 89 46' 20" West 190.00 feet to the TRUE POINT OF BEGINNING, in Lane County, Oregon.

RWB Booth Consulting, Inc.
Bob Booth, State Certified General Appraiser,
Consulting Forester

Timber Cruises & Appraisals
Real Estate Appraisals
Value Consultations
Forest Management Planning
Log Marketing
Land Use Planning

April 13, 2004
TaylrGrantLt2.04

Mr. Harry Taylor
Land Use Consultant
P.O. Box 1420
Veneta, OR 97487

RE: Dave Grant Forest Soil Analysis / Plan Amendment / Zone Change PA 01-5875. Request for forester's opinion of overall soil forest productivity rating for the subject (Reference is made to previous BOOTH CONSULTING, INC. correspondence in regard to this matter).

Dear Mr. Taylor,

The overall forest productivity rating for the soils on the subject land is 0. The Oxley Gravelly silt loam soil (100), Cloquato silt loam soil (29), and Sifton soil (123), do not have forest growing capability on the Grant property.

Thank you for the opportunity to provide this service,

Sincerely,

BOOTH CONSULTING, INC.

By: Robert W Booth
Robert W. Booth, President

Booth Consulting, Inc.
Bob Booth, State Certified General Appraiser,
Consulting Forester

Timber Cruises & Appraisals
Real Estate Appraisals
Value Consultations
Forest Management Planning
Log Marketing
Land Use Planning

March 25, 2004
TaylrGrantLt2.04

Mr. Harry Taylor
Land Use Consultant
P.O. Box 1420
Veneta, OR 97487

RE: Dave Grant Staff Report to the County Commissioners on Plan Amendment / Zone Change request PA 01-5875.

Dear Mr. Taylor;

Your request for a response to Lane County Planning Staff Report Dated March 13, 2004, regarding Forest Capability of Soil #123 Sifton gravelly loam, item D. Recommendations, First paragraph:

It is my conclusion that this soil has a forest capability rating of 0. My observations and route to conclusion follows:

A definitive capability rating for the #123 Sifton gravelly loam soil could best be derived if there were examples of this soil supporting Douglas Fir or Ponderosa Pine. Little production data research is available for most hardwood species, and for this reason, hardwoods could not be developed as a good indicator of soil capability ratings. As I stated in my letter dated July 1, 2003, I researched the Soil Survey of Lane County Area and was unable to find an example that was producing a forest stand.

The word "capability", by definition it seems to me, would infer that there are limitations on the soil productivity for any given soil that would apply to all species. Soil nutrients, water, and light are commonly known to be present in a quantity that is limited for any given soil. They are not necessarily available just because they are present. Percolation characteristics that influence the development of soil horizons and soil fertility, availability of water to the plants, and light competition factors can limit a plants ability to survive.

According to the Soil Survey of the Lane County Area, the Sifton gravelly loam soil was "formed in gravelly alluvium containing volcanic ash in the upper part". It is an excessively drained soil having very rapid permeability. Douglas Fir has a root system that is confined mostly to the upper horizons of the soil as contrasted with a "tap root" that can grow deeply into the soil horizons. The Douglas Fir root system could not be efficient in removing adequate water and nutrients to sustain long term growth on excessively drained soils such as the Sifton soil. In the absence of empirical data to confirm a soil productivity rating, a reasonable approach to estimating production capability would include the best data available: an analysis of the soils capability for producing plants. In the case of the Sifton soil, a plant species that could extract adequate water for growth near the surface of the soil, has characteristics of an annual crop, and that required little soil tilling would be best suited to this soil area and would most likely produce at the soils optimum capability. Douglas Fir meets none these conditions.

Ponderosa Pine has a tap root system and is able to reach water that is deeper in the soil. Pine would have some of the same water take-up concerns as Douglas Fir on initial establishment because of undeveloped new root systems. Ponderosa Pine within the Willamette Valley seems to have a higher water tolerance than Ponderosa Pine growing in the inter-mountain region where pine is more commonly found. I have found that Ponderosa Pine will grow in areas near the Willamette Valley floor that are too wet and clayey for Douglas Fir, but pine wood quality and tree form are typically inferior to pine grown on better drained soils in Eastern Oregon. In my opinion the Sifton soil has a percolation rate that is too rapid and the soil is subject to droughty conditions that would prohibit establishment and culture of Ponderosa Pine. I would include culture of Cottonwood, Red Alder, Big Leaf Maple, and Ash among the species that would have a similar response to water availability as pine.

In the absence of credible examples of the Sifton gravelly loam soil producing any forest species in Lane County from which a measured response of tree species to the Sifton soil characteristics could be substantiated, and considering the soil characteristics published in the Soil Survey of Lane County Area for this soil, It is my opinion the Sifton gravely loam soil would have a soil capability rating for Douglas Fir, Ponderosa Pine and most native hardwoods of 0. Use of any other capability rating, it would appear to me, would be conjectural and would have to be discriminatory.

Thank you for the opportunity to provide this service,

Sincerely,

BOOTH CONSULTING, INC.

By: Robert Booth

Robert W. Booth, President

Steve Campbell

From: Steve Campbell [Steve.campbell@or.usda.gov]
Sent: Monday, March 29, 2004 8:30 AM
To: 'hatland@att.net'
Subject: Forest Productivity - Sifton Series

Hello Harry:

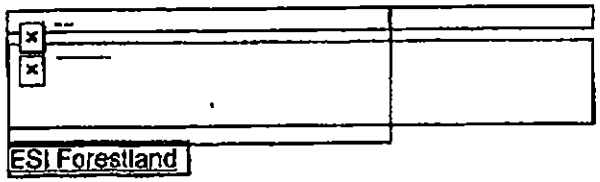
We have two forest productivity plots on the Sifton series in Linn County. The 50-year site index for Douglas-fir was 134 and 135 for these two plots (169 and 170 on 100-year site curves). I have attached a file to this message with the plot data. The data is also available at the follow web site: http://esis.sc.egov.usda.gov/StandardReports/pgForestSelect.aspx

Based on the data for these two plots, the Douglas-fir 50-year site index of 124 in the Lane County soil database is conservative.

I would suggest that you present the information from your consulting forester to the regulatory organization if you believe that the soils on your customer's site are nonproductive for commercial forest species

Steve Campbell, Soil Scientist
USDA - Natural Resources Conservation Service
101 SW Main St., Suite 1300
Portland, OR 97204
Phone: 503-414-3009 Fax: 503-414-3101
E-mail: steve.campbell@or.usda.gov

Sifton_forest_plots.
htm (26 KB...



Site - MLRA	Soil - Series Name	Site Index - Plant Symbol	Site Index - Curve Number	Plot ID - Number	Plot ID - State	Plot ID - County	Site - MLRA	Site Index - Plant Symbol	Site Index - Curve Number	Site Index - Plot Average
2	SIFTON	PSME	790	1	41	43	2	PSME	790	169
2	SIFTON	PSME	795	1	41	43	2	PSME	795	134
2	SIFTON	PSME	790	2	41	43	2	PSME	790	170
2	SIFTON	PSME	795	2	41	43	2	PSME	795	135

TOTAL P.03

United States Department of Agriculture
NRCS Natural Resources Conservation Service

Ecological Site Inventory - Forestland

Standard Reports Report Help

Forest Site Plot Data Standard Report of Site Index by State

State: Oregon

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
ABEGG	PIPO	600	33	53	41	33	125	6	87.5	117.3		30		1900	15	320	L	M	5	1

TOTAL NUMBER OF PLOTS	1
SITE INDEX MEAN	125
SITE INDEX RANGE	125 - 125
STANDARD DEVIATION (+/-)	0

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
ABEGG	PSME	790	277	90	41	15	124	3	108	127.3	80	85		280	3		L		5	1
ABEGG	PSME	795	59	53	41	33	96	6	53.7	91.5		39		1935	12	190	L	M	5	1
ABEGG	PSME	790	7	63	41	33	128	3	81.7	117.3	420	50		1500	2	90	CL	M	5	1
ABEGG	PSME	790	2	73	41	33	117	3	72	100.7	108	60		1480	2		L	X	5	1
ABEGG	PSME	790	13	75	41	33	100	3	108	103	230	35		1320	3	125	L	M	5	1

TOTAL NUMBER OF PLOTS	5
SITE INDEX MEAN	113
SITE INDEX RANGE	96 - 128
STANDARD DEVIATION (+/-)	14.31

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
ABIQUA	PSME	795	11	67	41	39	120	4	54.2	115		60		710			SICL		5	1
ABIQUA	PSME	790	4	70	41	43	172	4	43.2	120.5		58		800			L	X	5	1

TOTAL NUMBER OF PLOTS	2
SITE INDEX MEAN	146
SITE INDEX RANGE	120 - 172
STANDARD DEVIATION (+/-)	36.77

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
ACANOD	PSME	790	49	61	41	43	158	4	380	218.5	425	105		2480	5	180	SICL	M	5	1

TOTAL NUMBER OF PLOTS	1
SITE INDEX MEAN	158
SITE INDEX RANGE	158 - 158
STANDARD DEVIATION (+/-)	0

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
ACKER			18	86	41	29			84.5	114.3	120	50		3360	37	340	L	U	5	1

STANDARD DEVIATION (+/-)	0

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
SHROYTON	PIPO	600	67	87	41	17	80	4	63.8	66.4	100	20		4600	10	80	LS	M	5	1
SHROYTON	PIPO	600	68	87	41	17	99	6	83.7	88.7		20		4000	40	10	LS	L	5	1
SHROYTON	PIPO	600	44	89	41	17	71	5	70.8	70.2	180	30		4600	3	180	LS	X	5	1
SHROYTON	PIPO	600	45	89	41	17	73	5	58.2	61.4	180	30		4600	35	80	LS		5	1
SHROYTON	PIPO	600	46	89	41	17	90	5	79.5	84.6	200	30		4700	75	20	LS		5	1
TOTAL NUMBER OF PLOTS			5																	
SITE INDEX MEAN			82.6																	
SITE INDEX RANGE			71 - 99																	
STANDARD DEVIATION (+/-)			11.80																	

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
SHUKASH	PICO	520	38	95	41	37	61	3	126.7	69.3	140			5000	3	200	LCOS	M	5	1
TOTAL NUMBER OF PLOTS			1																	
SITE INDEX MEAN			61																	
SITE INDEX RANGE			61 - 61																	
STANDARD DEVIATION (+/-)			0																	

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
SHUKASH	PIPO	600	15	93	41	35	80	5	102.8	81.2	50	17		4800	1		LCOS		6	1
SHUKASH	PIPO	600	39	95	41	37	80	5	162.8	102	180			5460	6	110	LCOS	M	5	1
SHUKASH	PIPO	600	40	95	41	37	71	5	103.2	71.6	150			4665	3	309	LCOS	M	5	1
TOTAL NUMBER OF PLOTS			3																	
SITE INDEX MEAN			77																	
SITE INDEX RANGE			71 - 80																	
STANDARD DEVIATION (+/-)			5.110																	

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
SIFTON	PSME	790	1	71	41	43	169	4	43.2	125.5	202	58		650	2	242	L	X	6	1
SIFTON	PSME	795	2	71	41	43	135	4	47	114		58		650	2	314	L	L	5	1
TOTAL NUMBER OF PLOTS			2																	
SITE INDEX MEAN			152																	
SITE INDEX RANGE			135 - 169																	
STANDARD DEVIATION (+/-)			24.04																	

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
SILETZ	PSME	790	24	83	41	41	156	2	45.5	102.5	80	85		250	2	200	SIL	U	5	1
SILETZ	PSME	795	71	85	41	41	124	5	59.2	127.4	270	95		115	2	170	SIL		5	1
TOTAL NUMBER OF PLOTS			2																	
SITE INDEX MEAN			140																	
SITE INDEX RANGE			124 - 156																	
STANDARD DEVIATION (+/-)			22.62																	

United States Department of Agriculture
NRCS Natural Resources Conservation Service

Ecological Site Inventory - Forestland

Standard Reports Report Help

Forest Site Plot Data Standard Report of Site Index by County

State: Oregon
County: Lane

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
ABIQUA	PSME	790	11	67	41	39	157	4	54.2	115		60		710			SICL		5	1

TOTAL NUMBER OF PLOTS	1
SITE INDEX MEAN	157
SITE INDEX RANGE	157 - 157
STANDARD DEVIATION (+/-)	0

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
APT VAR	PSME	790	3	81	41	39	166	40	49.3	114.3	213	60		2380	10	270	L	L	5	1

TOTAL NUMBER OF PLOTS	1
SITE INDEX MEAN	166
SITE INDEX RANGE	166 - 166
STANDARD DEVIATION (+/-)	0

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
ASTORIA	PSME	790	10	79	41	39	169	5	81	154.2	240	100		700	15	260	SIL	M	5	1

TOTAL NUMBER OF PLOTS	1
SITE INDEX MEAN	169
SITE INDEX RANGE	169 - 169
STANDARD DEVIATION (+/-)	0

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
BELLPINE	PSME	790	2	56	41	39	144	5	43.2	90.4		48		600	32	335	SICL	M	5	1
BELLPINE	PSME	790	9	67	41	39	148	4	68	120.5		55		880	50	50	SICL	M	5	1
BELLPINE	PSME	790	12	68	41	39	154	4	52.2	109.8	300	50		380			SIL	X	4	1
BELLPINE	PSME	790	13	68	41	39	164	3	57	122.3	100	50		390	2		SICL	X	5	1
BELLPINE	PSME	790	1	69	41	39	133	3	73	116		50		975	15	105	SICL	M	5	1
BELLPINE	PSME	790	3	69	41	39	130	4	83	120.2		45		840	5	268	SICL	X	5	1
BELLPINE	PSME	790	2	70	41	39	164	3	47.3	117.3		50		500	15	90	SICL	M	5	1
BELLPINE	PSME	790	11	70	41	39	153	5	66	125		60		1200	10	85	SICL	M	5	1
BELLPINE	PSME	790	1	74	41	39	152	5	49	104.8		50		850	4	0	SICL	L	5	1
BELLPINE	PSME	790	1	82	41	39	140	40	37	78	111	55		840	2	342		L	5	1
BELLPINE	PSME	790	14	82	41	39	170	40	26.4	63.6		30		1200	25	270	SICL	U	5	1

TOTAL NUMBER OF PLOTS	11
SITE INDEX MEAN	150.19

SITE INDEX RANGE	130 - 170
STANDARD DEVIATION (+/-)	12.84

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
BLACHLY	PSME	790	17	66	41	39	147	5	84.2	136.2		70		1000	5		CL	X	5	1
BLACHLY	PSME	790	19	66	41	39	149	4	101.5	150.5		70		1000	25	270	CL	M	5	1
BLACHLY	PSME	790	2	79	41	39	173	4	42	106.5	310	100		500	5	340	SICL	X	5	1
BLACHLY	PSME	790	3	79	41	39	166	4	105	168.8	250	100		1200	18	200	SICL	U	5	1
BLACHLY	PSME	790	2	81	41	39	179	40	35	97	165	100		1050	32	250	SICL	M	5	1
BLACHLY	PSME	790	4	81	41	39	164	40	34	84.8	204	95		400	23	270	SICL	M	5	1
TOTAL NUMBER OF PLOTS			6																	
SITE INDEX MEAN			163																	
SITE INDEX RANGE			147 - 179																	
STANDARD DEVIATION (+/-)			12.710																	

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
BOHANNON	PSME	790	4	69	41	39	162	3	75	141.7	300	45		780	60	315	L	M	5	1
TOTAL NUMBER OF PLOTS			1																	
SITE INDEX MEAN			162																	
SITE INDEX RANGE			162 - 162																	
STANDARD DEVIATION (+/-)			0																	

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
BRIEDWELL	PSME	795	10	67	41	39	107	5	69.6	121.8		65		700	3		L	X	6	1
BRIEDWELL	PSME	790	19	76	41	39	131	5	83.6	121.6	225	60		1110	2	350	L	M	5	1
BRIEDWELL	PSME	790	20	76	41	39	139	5	57.4	104.8	175	60		1040	1		SIL	X	5	1
TOTAL NUMBER OF PLOTS			3																	
SITE INDEX MEAN			125.67																	
SITE INDEX RANGE			107 - 139																	
STANDARD DEVIATION (+/-)			16.65																	

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
BULLARDS	PSME	790	2	71	41	39	141	3	54.3	102.7		78		70	18	165	FSL	L	6	1
BULLARDS	PSME	790	1	73	41	39	147	4	37	82.2	280	75		160	9	220	L	U	5	1
BULLARDS	PSME	790	7	79	41	39	145	3	91	145.7	150	75		130	5	260	L	U	5	1
TOTAL NUMBER OF PLOTS			3																	
SITE INDEX MEAN			144.33																	
SITE INDEX RANGE			141 - 147																	
STANDARD DEVIATION (+/-)			3.06																	

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
CRUISER	PSME	780	81	61	41	39	98	4	422	177.2	600	105		2900	33	225	L	U	3	1
CRUISER	PSME	780	6	81	41	39	150	40	24.5	49.5	115	70		3120	7	270	L	M	5	1

CRUISER	PSME	780	3	82	41	39	160	40	40.2	75	254	80		3100	10	242	L	U	5	

TOTAL NUMBER OF PLOTS	3
SITE INDEX MEAN	136
SITE INDEX RANGE	98 - 160
STANDARD DEVIATION (+/-)	33.29

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
CUMLEY	PSME	790	10	66	41	39	152	4	46.2	87		60		1250	10	360	CL	X	4	1
CUMLEY	PSME	790	1	81	41	39	144	40	52	103	194	60		2400	10		1			4
CUMLEY	PSME	790	11	81	41	39	170	40	29.3	74.7	138	70		1950	8	90	SICL	M	4	1

TOTAL NUMBER OF PLOTS	3
SITE INDEX MEAN	155.33
SITE INDEX RANGE	144 - 170
STANDARD DEVIATION (+/-)	13.31

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
CUPOLA	PSME	790	4	76	41	39	99	5	57	72.6	135	75		1280	14	205	L	U	6	1
CUPOLA	PSME	790	5	76	41	39	129	5	114	132.8	240	70		1060	1		L	X	5	1
CUPOLA	PSME	790	7	81	41	39	158	40	54.2	70.2	211	70		2800	6	340	L	L	5	1

TOTAL NUMBER OF PLOTS	3
SITE INDEX MEAN	128.67
SITE INDEX RANGE	99 - 158
STANDARD DEVIATION (+/-)	29.50

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
DIGGER	PSME	790	2	69	41	39	154	3	72.3	132		46		925	28	145	L	M	5	1
DIGGER	PSME	790	5	69	41	39	146	3	92	140.7	380	45		900	74	38	L	U	5	1
DIGGER	PSME	790	3	76	41	39	171	5	62.4	134.6	195	75		1200	80	215	L	L	5	1
DIGGER	PSME	790	2	77	41	39	143	5	42.2	88.8	160	60		1250	80	170	L	M	5	1

TOTAL NUMBER OF PLOTS	4
SITE INDEX MEAN	153.5
SITE INDEX RANGE	143 - 171
STANDARD DEVIATION (+/-)	12.56

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
EILERTSEN	PSME	795	10	77	41	39	121	3	55.7	117.3	140	70		500	4	200	SIL	M	5	1

TOTAL NUMBER OF PLOTS	1
SITE INDEX MEAN	121
SITE INDEX RANGE	121 - 121
STANDARD DEVIATION (+/-)	0

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							

FORMADER	PSME	790	5	79	41	39	164	6	64.7	133	240	110	1550	28	210	L	U	5	1
FORMADER	PSME	790	15	79	41	39	159	4	51.5	112.5	230	110	1450	32	240	L	U	5	1
FORMADER	PSME	790	4	80	41	39	159	5	53.2	114.8	200	110	1750	55	204	L	M	5	1
FORMADER	PSME	790	5	80	41	39	164	5	65.6	133	170	110	1700	64	320	L	M	5	1
TOTAL NUMBER OF PLOTS			4																
SITE INDEX MEAN			161.5																
SITE INDEX RANGE			159 - 164																
STANDARD DEVIATION (+/-)			2.89																

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
HAFLINGER	PSME	790	5	74	41	39	147	5	79.6	133.2	330	75		1220	3	270	SL	X	6	1
TOTAL NUMBER OF PLOTS			1																	
SITE INDEX MEAN			147																	
SITE INDEX RANGE			147 - 147																	
STANDARD DEVIATION (+/-)			0																	

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
HAZELAIR	PSME	790	7	70	41	39	106	3	83.7	98.3		59		880	8	220	SICL	U	4	1
HAZELAIR	PSME	790	17	70	41	39	112	5	82.3	107		50		1740	8	187	SICL	U	4	1
TOTAL NUMBER OF PLOTS			2																	
SITE INDEX MEAN			109																	
SITE INDEX RANGE			106 - 112																	
STANDARD DEVIATION (+/-)			4.24																	

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
HEMBRE	PSME	790	6	78	41	39	180	3	104.7	184.3	190	120			35	80	SIL	L	5	1
HEMBRE	PSME	790	1	80	41	39	162	5	93	157.4	260	100		1400	38	220	SIL	U	5	1
TOTAL NUMBER OF PLOTS			2																	
SITE INDEX MEAN			171																	
SITE INDEX RANGE			162 - 180																	
STANDARD DEVIATION (+/-)			12.72																	

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
HOLDERMAN	PSME	780	10	76	41	39	120	5	140.2	140.4	265	70		4078	65	20	L	U	5	1
HOLDERMAN	PSME	780	11	76	41	39	116	5	80.4	101.8	250	70		3520	60	215	L	U	5	1
HOLDERMAN	PSME	780	12	76	41	39	121	5	98.6	120	310	70		4070	7	180	L	U	5	1
TOTAL NUMBER OF PLOTS			3																	
SITE INDEX MEAN			119																	
SITE INDEX RANGE			116 - 121																	
STANDARD DEVIATION (+/-)			2.64																	

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
HONEYGROVE	PSME	790	12	69	41	39	182	3	84.7	170		80		1150	15	20	SICL	L	5	1

HONEYGROVE	PSME	790	13	69	41	39	170	3	59	130.7		40	1120	6	324	SICL	M	5	1
HONEYGROVE	PSME	790	6	70	41	39	165	4	55	122.5		61	760	15	90	SICL	M	5	1
HONEYGROVE	PSME	790	8	70	41	39	159	3	57.3	119		63	1180	15	280	SICL	U	5	1
HONEYGROVE	PSME	790	1	71	41	39	161	4	50.2	113.2		80	1500	15	335	SICL	M	5	1
HONEYGROVE	PSME	790	4	71	41	39	154	4	78	138.2		62	1600	8	353	SIC	U	5	1
HONEYGROVE	PSME	790	1	72	41	39	157	4	57	118		70	925	14	104	SICL	U	5	1
HONEYGROVE	PSME	790	1	77	41	39	136	5	40.4	80.6	220	60	550	7	60	SICL	U	5	1
HONEYGROVE	PSME	790	8	81	41	39	162	40	34	84.3	215	65	1700	30	325	SICL	M	5	1
HONEYGROVE	PSME	790	9	81	41	39	138	40	35.9	75.3	156	60	2500	5	290	L	M	5	1
HONEYGROVE	PSME	795	10	81	41	39	129	40	29.3	68.9	152	70		1	80	SICL	U	5	1
HONEYGROVE	PSME	790	4	82	41	39	133	40	27.9	55.5	139	60	1600	15	55	SICL	U	5	1
HONEYGROVE	PSME	790	5	83	41	39	158	40	28	67.4	177	80	1250	22	80	SICL	M	5	1
HONEYGROVE	PSME	790	6	83	41	39	160	40	63	126.8	237	60		28	75	SICL	M	5	1
HONEYGROVE	PSME	790	11	83	41	39	152	40	30	69.7	211	65	750	35	270	SICL	U	5	1
HONEYGROVE	PSME	790	14	83	41	39	152	40	32.3	73.7	212	65	950	10	160	SICL	L	5	1

TOTAL NUMBER OF PLOTS	16
SITE INDEX MEAN	154.25
SITE INDEX RANGE	129 - 182
STANDARD DEVIATION (+/-)	14.18

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
HUMMINGTON	ABPR	060	12	79	41	39	90	1	93.1	97.1	140	100		4100	35	270	L	M	5	1

TOTAL NUMBER OF PLOTS	1
SITE INDEX MEAN	90
SITE INDEX RANGE	90 - 90
STANDARD DEVIATION (+/-)	0

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
HUMMINGTON	PSME	780	15	70	41	39	150	3	66.7	113.9		50		3500	44	273	L	U	5	1
HUMMINGTON	PSME	780	5	77	41	39	125	5	196.6	167.4	360	100		3140	22	140	L	U	5	1
HUMMINGTON	PSME	780	12	79	41	39	118	4	93.1	97.1	140	100		4100	35	270	L	M	5	1

TOTAL NUMBER OF PLOTS	3
SITE INDEX MEAN	131
SITE INDEX RANGE	118 - 150
STANDARD DEVIATION (+/-)	16.82

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
HUMMINGTON	TSHE	990	15	70	41	39	138	3	66.7	113.9		50		3500	44	273	L	U	5	1

TOTAL NUMBER OF PLOTS	1
SITE INDEX MEAN	138
SITE INDEX RANGE	138 - 138
STANDARD DEVIATION (+/-)	0

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
JIMBO	PSME	795	10	69	41	39	122	3	94.7	166		85		880	5	5	SIL	X	5	1
JIMBO	PSME	790	11	69	41	39	170	3	52.7	123.3		80		860	7	355	SIL	L	5	1

JIMBO	PSME	790	3	70	41	39	157	4	55.8	117	240	60	655		SIL	X	5	1
JIMBO	PSME	790	3	74	41	39	151	4	80	137		70	1040	3	SL	X	5	1

TOTAL NUMBER OF PLOTS	4
SITE INDEX MEAN	150
SITE INDEX RANGE	122 - 170
STANDARD DEVIATION (+/-)	20.29

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
JORY	PSME	790	3	58	41	39	150	4	49.2	104.2		60		1000	30	315	SICL	L	5	1
JORY	PSME	790	14	68	41	39	146	3	89	139.3		50		700	10	210	SICL	L	5	1
JORY	PSME	795	7	82	41	39	120	40	34.8	79	110	55		890	8	304		L	5	1
JORY	PSME	790	7	83	41	39	147	40	64	118.5	274	46			41	4	L	M	5	1
JORY	PSME	790	8	83	41	39	150	40	65	122.2	261	50			14	296	SICL		5	1

TOTAL NUMBER OF PLOTS	5
SITE INDEX MEAN	142.6
SITE INDEX RANGE	120 - 150
STANDARD DEVIATION (+/-)	12.76

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
KEEL	PSME	780	6	68	41	39	174	3	41	103.7	240	65		3000	18	265	L	M	5	1
KEEL	PSME	780	16	70	41	39	174	3	61	133.7		50		3000	27	15	L	U	5	1
KEEL	PSME	780	14	76	41	39	114	5	71.6	93.4	240	70		3850	5	310	L	L	5	1

TOTAL NUMBER OF PLOTS	3
SITE INDEX MEAN	154
SITE INDEX RANGE	114 - 174
STANDARD DEVIATION (+/-)	34.64

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
KILCHIS	PSME	790	14	79	41	39	116	6	64	93.7	245	100		2250	10	270	L	U	5	1

TOTAL NUMBER OF PLOTS	1
SITE INDEX MEAN	116
SITE INDEX RANGE	116 - 116
STANDARD DEVIATION (+/-)	0

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
KINNEY	PSME	790	15	66	41	39	144	4	63.5	115.5	240	60		2200	5	270	L	U	5	1
KINNEY	PSME	790	20	66	41	39	138	4	41	84.2		70		1900	25	360	L	M	5	1
KINNEY	PSME	790	8	68	41	39	159	5	69.6	134.2	240	60		2350			L	X	5	1
KINNEY	PSME	790	12	70	41	39	170	5	68.4	146.4		70		2070	8	217	L	M	5	1
KINNEY	PSME	790	2	72	41	39	176	4	83	162.5		75		2250	32	146	L	M	5	1
KINNEY	PSME	790	17	76	41	39	146	5	34	74.6	125	60		1720	9	40	L	M	5	1

TOTAL NUMBER OF PLOTS	6
SITE INDEX MEAN	155.5
SITE INDEX RANGE	138 - 176
STANDARD DEVIATION (+/-)	15.30

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
KLICKITAT	PSME	790	4	68	41	39	157	3	61	122	190	54		800	62	283	CL	M	5	1
KLICKITAT	PSME	790	6	76	41	39	171	3	50.3	120		65		1200	55	20	L	L	5	1
KLICKITAT	PSME	790	18	76	41	39	135	5	174	156.2	310	60		1520	7	270	L	M	5	1
KLICKITAT	PSME	790	23	76	41	39	155	5	67.8	129.2	185	60		1640	65	65	CL	U	5	1

TOTAL NUMBER OF PLOTS	4
SITE INDEX MEAN	154.5
SITE INDEX RANGE	135 - 171
STANDARD DEVIATION (+/-)	14.82

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
LINT	PSME	790	2	73	41	39	161	4	41.5	99.5	240	75		320	6	210	SIL	M	5	1

TOTAL NUMBER OF PLOTS	1
SITE INDEX MEAN	161
SITE INDEX RANGE	161 - 161
STANDARD DEVIATION (+/-)	0

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
MALABON	PSME	790	1	70	41	39	166	4	67.2	137		45		435	2		SICL	X	5	1

TOTAL NUMBER OF PLOTS	1
SITE INDEX MEAN	166
SITE INDEX RANGE	166 - 166
STANDARD DEVIATION (+/-)	0

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
MARTY	PSME	790	7	78	41	39	145	4	97.8	141.8	300	120		1350	45	180	L	U	5	1

TOTAL NUMBER OF PLOTS	1
SITE INDEX MEAN	145
SITE INDEX RANGE	145 - 145
STANDARD DEVIATION (+/-)	0

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
MCCULLY	PSME	790	13	70	41	39	157	5	45.8	104.4		70		2130	11	157	SICL	L	5	1
MCCULLY	PSME	790	7	76	41	39	132	5	67	108.8	225	65		2520	7	67	CL	U	5	1
MCCULLY	PSME	795	9	82	41	39	108	40	30.5	59.7		60		1700	13	185	CL	L	5	1
MCCULLY	PSME	795	10	82	41	39	115	40	32.5	67.3		60		1300	5	125	CL	M	5	1
MCCULLY	PSME	795	9	83	41	39	126	40	25	56.2	146	72			44	170	CL	M	5	1

TOTAL NUMBER OF PLOTS	5
SITE INDEX MEAN	127.6
SITE INDEX RANGE	108 - 157
STANDARD DEVIATION (+/-)	18.90

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
MCCULLY	TSHE	990	7	76	41	39	148	3	67	108.8	225	65		2520	7	67	CL	U	5	1

TOTAL NUMBER OF PLOTS	1
SITE INDEX MEAN	148
SITE INDEX RANGE	148 - 148
STANDARD DEVIATION (+/-)	0

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
MCDUFF	PSME	790	1	76	41	39	144	4	34	73.8	112	65		2500	27	135	CL	M	5	1
MCDUFF	PSME	790	8	76	41	39	159	5	29.6	76.8	125	63		2540	23	141	CL	L	5	1
MCDUFF	PSME	790	9	76	41	39	139	8	62.3	109.8	180	65		2440	5	195	CL	M	5	1
MCDUFF	PSME	790	15	76	41	39	145	4	39.6	82.2	165	70		2200	20	60	CL	L	5	1
MCDUFF	PSME	790	24	76	41	39	148	5	73.4	128	260	60		2630	35	130	CL	U	5	1

TOTAL NUMBER OF PLOTS	5
SITE INDEX MEAN	147
SITE INDEX RANGE	139 - 159
STANDARD DEVIATION (+/-)	7.44

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
MEDA	PSME	790	4	77	41	39	156	5	44	99.8	210	55		860	1	220	L	X	5	1

TOTAL NUMBER OF PLOTS	1
SITE INDEX MEAN	156
SITE INDEX RANGE	156 - 156
STANDARD DEVIATION (+/-)	0

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
MILLICOMA	PSME	790	2	83	41	39	156	4	30.5	74	105	70		1300	75	80	L	M	5	1

TOTAL NUMBER OF PLOTS	1
SITE INDEX MEAN	156
SITE INDEX RANGE	156 - 156
STANDARD DEVIATION (+/-)	0

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
MULKEY	ABPR	060	7	77	41	39	153	5	39.2	63.6	140	85		4170	8	200	L	M	5	1

TOTAL NUMBER OF PLOTS	1
SITE INDEX MEAN	153
SITE INDEX RANGE	153 - 153
STANDARD DEVIATION (+/-)	0

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							

NEHALEM	PSME	790	8	77	41	39	152	5	67.2	124.8	130	70	480	3	200	SIL	X	5	1
NEHALEM	PSME	790	1	78	41	39	182	5	59.2	140	250	65	430	2	220	SIL	X	5	1

TOTAL NUMBER OF PLOTS	2
SITE INDEX MEAN	167
SITE INDEX RANGE	152 - 182
STANDARD DEVIATION (+/-)	21.21

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
NEKIA	PSME	790	22	67	41	39	145	5	64.4	117.2		55		1100	15	0	SICL	M	5	1
NEKIA	PSME	790	8	69	41	39	169	3	50.3	117.7	390	40		840	19	295	SICL	M	5	1
NEKIA	PSME	790	9	69	41	39	140	3	52.7	100.7	260	40		760	18	85	SICL	M	5	1

TOTAL NUMBER OF PLOTS	3
SITE INDEX MEAN	151.33
SITE INDEX RANGE	140 - 169
STANDARD DEVIATION (+/-)	15.50

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
NEKOMA	PSME	790	9	77	41	39	185	5	68.8	155	180	70		500	3	10	SIL	M	5	1
NEKOMA	PSME	790	2	78	41	39	185	5	53.6	135.4	310	65		520	1	340	SIL	X	5	1

TOTAL NUMBER OF PLOTS	2
SITE INDEX MEAN	185
SITE INDEX RANGE	185 - 185
STANDARD DEVIATION (+/-)	0

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
NESKOWIN	PISI	490	13	76	41	39	133	5	59.4	94.6	295	75		350	30	200	SIL	M	5	1

TOTAL NUMBER OF PLOTS	1
SITE INDEX MEAN	133
SITE INDEX RANGE	133 - 133
STANDARD DEVIATION (+/-)	0

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
NEWBERG	PSME	790	7	69	41	39	148	3	65.7	121		40		650	1		SIL	X	5	1

TOTAL NUMBER OF PLOTS	1
SITE INDEX MEAN	148
SITE INDEX RANGE	148 - 148
STANDARD DEVIATION (+/-)	0

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
PEAVINE	PSME	790	2	58	41	39	156	4	72	126.8		48		2050	16	360	SICL	U	5	1
PEAVINE	PSME	790	9	68	41	39	160	5	49.2	110.2	220	42		1080	8	330	SICL	L	5	1
PEAVINE	PSME	790	10	68	41	39	156	5	81.8	143	180	65		1700	22	160	SICL	M	5	1
PEAVINE	PSME	790	9	70	41	39	156	2	59.5	127		63		1210	7	230	SICL	U	5	1

PEAVINE	PSME	795	10	70	41	39	116	3	65	127		60
PEAVINE	PSME	790	5	71	41	39	172	4	71	146		62
PEAVINE	PSME	790	21	76	41	39	155	5	118.2	164	240	60
PEAVINE	PSME	790	22	76	41	39	150	5	74.2	131.2	220	60
PEAVINE	PSME	790	11	82	41	39	173	4	47	116		60
PEAVINE	PSME	790	4	83	41	39	172	40	28	72	196	80
PEAVINE	PSME	790	13	83	41	39	155	40	33	77.5	247	65

940	10	5	SICL	M	5	1
1250	25	349	CL	X	5	1
1620	55	285	SICL	U	5	1
2175	25	160	SICL	M	5	1
1000	50	160	L	U	5	
1250	20	100	SIL	U	5	1
1000	20	190	SICL	L	5	1

TOTAL NUMBER OF PLOTS	11
SITE INDEX MEAN	156.45
SITE INDEX RANGE	116 - 173
STANDARD DEVIATION (+/-)	15.67

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			#	Year	State	County						Annual	Summer							
PREACHER	PSME	795	2	76	41	39	182	5	82.8	182	255	75		1150	18	20	L	U	5	1
PREACHER	PSME	790	3	77	41	39	168	5	48.8	116	280	60		1200	52	5	L	U	5	1
PREACHER	PSME	790	3	78	41	39	171	4	87.2	160.8	320	100		1300	75	260	L	U	5	1
PREACHER	PSME	790	4	78	41	39	175	4	66.8	143.8	240	90		1100	12	170	L	L	5	1
PREACHER	PSME	790	4	79	41	39	188	4	102	198.5	340	100	4	1000	5	280	L	M	5	1
PREACHER	PSME	790	5	81	41	39	180	40	32	88	178	95		400	18	180	L	M	5	1
PREACHER	PSME	790	1	83	41	39	177	2	40.5	106	150	100		1700	10	180	SIL	M	5	1
PREACHER	PSME	790	3	83	41	39	164	40	31.5	79.5	112	70		1300	60	90	L	L	5	1

TOTAL NUMBER OF PLOTS	8
SITE INDEX MEAN	175.62
SITE INDEX RANGE	164 - 188
STANDARD DEVIATION (+/-)	7.83

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			#	Year	State	County						Annual	Summer							
RITNER	PSME	790	7	68	41	39	162	2	110.5	167.5	260	55		900	45	195	SICL	M	5	1
RITNER	PSME	790	11	68	41	39	126	4	52.8	91	200	55		1200	45	140	CL	M	5	1

TOTAL NUMBER OF PLOTS	2
SITE INDEX MEAN	144
SITE INDEX RANGE	126 - 162
STANDARD DEVIATION (+/-)	25.46

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			#	Year	State	County						Annual	Summer							
SALANDER	PISI	490	11	79	41	39	140	4	43	73.7	270	88		1000	5	280	SIL	U	5	1

TOTAL NUMBER OF PLOTS	1
SITE INDEX MEAN	140
SITE INDEX RANGE	140 - 140
STANDARD DEVIATION (+/-)	0

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			#	Year	State	County						Annual	Summer							
SALEM	PSME	790	3	68	41	39	153	3	76.7	136		54		750			SICL	X	5	1

TOTAL NUMBER OF PLOTS	1
SITE INDEX MEAN	153
SITE INDEX RANGE	153 - 153

STANDARD DEVIATION (+/-)	0

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
SALKUM	PSME	790	18	69	41	39	139	3	60	107.7		40		600	5	5	SIL	U	5	1
TOTAL NUMBER OF PLOTS			1																	
SITE INDEX MEAN			139																	
SITE INDEX RANGE			139 - 139																	
STANDARD DEVIATION (+/-)			0																	

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
SATURN	PSME	790	1	67	41	39	163	3	62.7	130.3		60		1100	2			X		
SATURN	PSME	790	2	67	41	39	168	5	62.4	132.2		60		1200	2			X		
TOTAL NUMBER OF PLOTS			2																	
SITE INDEX MEAN			165.5																	
SITE INDEX RANGE			163 - 168																	
STANDARD DEVIATION (+/-)			3.53																	

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
SLICKROCK	PSME	790	6	79	41	39	203	4	52.5	146	200	100		850	15	270	L	L	5	1
TOTAL NUMBER OF PLOTS			1																	
SITE INDEX MEAN			203																	
SITE INDEX RANGE			203 - 203																	
STANDARD DEVIATION (+/-)			0																	

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
TAHKENITCH	PSME	790	3	73	41	39	162	4	40.2	97		75		430	14	250	L	U	5	1
TAHKENITCH	PSME	790	4	73	41	39	149	4	42.8	94.5	480	75		430	53	282	SL	U	5	1
TOTAL NUMBER OF PLOTS			2																	
SITE INDEX MEAN			155.5																	
SITE INDEX RANGE			149 - 162																	
STANDARD DEVIATION (+/-)			9.110																	

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
VENETA	PSME	790	2	65	41	39	128	4	99	126.8	260	45		430	2	360	L	X	4	1
VENETA	PSME	790	14	69	41	39	149	3	55.3	110.3		50		440	3	115	L	L	4	1
VENETA	PSME	790	15	69	41	39	154	3	59	118.7		50		460	5	75	L	X	4	1
TOTAL NUMBER OF PLOTS			3																	
SITE INDEX MEAN			143.67																	
SITE INDEX RANGE			128 - 154																	
STANDARD DEVIATION (+/-)			13.710																	

		Curve	Plot ID									Precipitation					Soil	Slope	Drain-	Ero-

Soil Series	NSPNS	Number	Plot #	Year	State	County	Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Annual	Summer	Elev	Slope %	Aspect	Texture	Position	age Class	sion Code
VENETA VARIANT	PSME	790	6	69	41	39	148	3	34.7	79.3		50		650	2	0	SIL	X	5	1

TOTAL NUMBER OF PLOTS	1
SITE INDEX MEAN	148
SITE INDEX RANGE	148 - 148
STANDARD DEVIATION (+/-)	0

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
WALDPORT	PSME	790	3	80	41	39	125	2	120.5	132.5	120	75		110	40	55	FS	M	7	1

TOTAL NUMBER OF PLOTS	1
SITE INDEX MEAN	125
SITE INDEX RANGE	125 - 125
STANDARD DEVIATION (+/-)	0

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
WILLAKENZIE	PSME	790	16	69	41	39	136	3	50	95.3		50		870	15	180	L	M	5	1
WILLAKENZIE	PSME	790	17	69	41	39	146	3	69.7	124		41		775	37	265	L	U	5	1
WILLAKENZIE	PSME	790	13	82	41	39	135	40	31.3	64		40		900	3	136	CL	L	5	

TOTAL NUMBER OF PLOTS	3
SITE INDEX MEAN	139
SITE INDEX RANGE	135 - 146
STANDARD DEVIATION (+/-)	6.09

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
WINBERRY	PIMO3	570	6	77	41	39	47	3	68.7	57.9	130	65		4080	6	150	L	U	6	1

TOTAL NUMBER OF PLOTS	1
SITE INDEX MEAN	47
SITE INDEX RANGE	47 - 47
STANDARD DEVIATION (+/-)	0

Soil Series	NSPNS	Curve Number	Plot ID				Site Index	# Trees	Avg. Age	Avg. Ht.	Basal Area	Precipitation		Elev	Slope %	Aspect	Soil Texture	Slope Position	Drainage Class	Erosion Code
			Plot #	Year	State	County						Annual	Summer							
YELLOWSTONE	PSME	780	13	79	41	39	86	5	96.2	79.6	130	95		3600	35	170	L	U	5	1

TOTAL NUMBER OF PLOTS	1
SITE INDEX MEAN	86
SITE INDEX RANGE	86 - 86
STANDARD DEVIATION (+/-)	0

PARCELIZATION AND DEVELOPMENT SUMMARY SHEET
DEVELOPED AND COMMITTED EXCEPTIONS

Map: 17-01-28 Plot: 525

Name: WALTERVILLE Exception Number: 1

I. PARCELIZATION AND DEVELOPMENT PRIOR TO ADOPTION OF STATE PLANNING GOALS:

Number of Parcels	67
Number of Dwellings	69
Other Uses (RETAIL STORES, BANK, RESTAURANT, PHARMACY)	—

II. PARCELIZATION AND DEVELOPMENT SINCE ADOPTION OF STATE PLANNING GOALS AND PRIOR TO ACKNOWLEGDEMENT OF COMPREHENSIVE PLAN:

Parcels Created Pursuant to Goals 3 and 4	✓
Parcels Created by Exception to Goals 3 and 4	—
Parcels Created Without Findings	7
Subtotal of Parcels	7
Number of dwellings	7
Number Of Other Uses (_____)	✓

III. PARCELIZATION AND DEVELOPMENT SINCE ACKNOWLEDGEMENT OF COMPREHENSIVE PLAN:

Number of Parcels	✓
Number of Dwellings	✓
Number of Other Uses(_____)	✓

IV. PARCELIZATION AND DEVELOPMENT SUMMARY:

Total Acreage	140.6
Total Number of Parcels	74
Largest Parcel	27.7
Average Parcel Size	1.9
Total Number of Dwellings	76

ATTACHMENT 2

EXHIBIT TT
SUPPLEMENTAL FINDINGS FOR
DEVELOPED & COMMITTED LANDS EXCEPTIONS

I. GENERAL INFORMATION

Maps: 17-01-28
Plots: 525-1
Location: Walterville

Number of Parcels: 68
Size: 140.6 Acres

II. CRITERIA FOR EXCEPTIONS TO STATE PLANNING GOALS

Section 197.732, Oregon Revised Statutes (ORS), and Section 660-04-028(6), Oregon Administrative Rules (OAR) specify the criteria and procedures for designating exceptions to State Planning Goals. Section II of the 1989 Addendum to the Developed and Committed Lands Working Paper explains how these criteria have been applied to Exception Area 525-1.

III. METHODOLOGY FOR DETERMINING EXCEPTIONS

Section III of the 1989 Addendum to the Developed and Committed Lands Working Paper explains how Exception Area 525-1 has been mapped, how data pertaining to the area was collected, and how findings were made from the available evidence.

IV. ACKNOWLEDGMENT HISTORY

On 13 September 1984 the Oregon Land Conservation and Development Commission (LCDC) acknowledged the Lane County Rural Comprehensive Plan. The plan was challenged by 1000 Friends of Oregon, who sought judicial review by the Court of Appeals. The Court of Appeals ruled in favor of the petitioners on several assignments of error, including the method used to identify developed and committed lands. The decision was appealed to the Oregon Supreme Court.

On 29 March 1988 the Oregon Supreme Court remanded the acknowledgment of the Lane County Rural Comprehensive Plan to LCDC for reconsideration of 5 separate issues, including further justification of developed and committed exception areas.

On 2 June 1988 LCDC adopted an In-Order-To-Comply directive to Lane County to prepare findings that demonstrate why land designated for residential, commercial and industrial use in rural Lane County is impracticable for agriculture or forestry.

On 27 July 1988 the Lane County Board of County Commissioners adopted Board Order 88-7-27-7, which endorsed supplemental findings for Exception Area 525-1. The findings were submitted to the Department of Land Conservation and Development (DLCD) for acknowledgment on 12 April 1989.

On 21 July 1989 LCDC voted unanimously to adopt Acknowledgment Orders 89-ACK-569, which approved the DLCD staff recommendation for partial acknowledgment of Developed and Committed Exception Areas in Lane County.

All but 25 of the 140.6 acres within Exception Area 525-1 were acknowledged by 89-ACK-569. Approval was withheld for tax lots 203, 204, 300*, 200, 103, 100, 102, and 700 because of the objection by 1000 Friends of Oregon: "Apparent farming practice, contiguous to resource zones, substantially undeveloped."

*Note: The original map that was submitted for Exception Area 525-1 indicated that Tax lot 300 was a single parcel. However, further research revealed that tax lot 300 was legally partitioned in 1984 (PA 1725-84) and presently consists of 3 tax lots (300, 301, and 302). Tax lot 300 is 7.5 acres, tax lot 301 is 2.0 acres, and tax lot 302 is 2.0 acres. All of these tax lots are in separated ownerships.

On 25 October 1989, the Lane County Board of County Commissioners voted unanimously to approve Board Order 89-10-25-4, which adopted the 1989 Addendum to the Lane County RCP Developed and Committed Lands Working Paper. The 1989 Addendum includes the findings of a panel of agricultural and forestry experts who formulated the following guidelines for determining whether land that is otherwise suitable for resource production may be so used:

a) Parcels of 20 acres or less with dwellings on three or more sides are committed to non-resource uses that make it impracticable to conduct farm or forest management.

b) Parcels with dwellings on two adjoining sides are impracticable for farm management if 15 acres or less, and impracticable for forest management if 20 acres or less.

c) Parcels with a dwelling on one adjoining side are impracticable for farm management if 5 acres or less, and impracticable for forest management if 15 acres or less.

On 24 November 1989 Lane County mailed a questionnaire to the owners of the 8 unacknowledged tax lots in Exception Area 525-1, requesting information as to the characteristics of their land. The responses are summarized in Section V. below.

V. FACTS RELIED UPON

A. Exception Area 525-1 is a residential settlement that is within the rural community of Walterville. The exception area is occupied by 76 dwellings, 69 of which were built prior to adoption of the State Planning Goals in 1974. The 7 remaining dwellings were constructed after adoption of the State Planning Goals, but prior to acknowledgment

of the Lane County Rural Comprehensive Plan. In addition to homesites, there are retail stores, restaurants, a bank, and a pharmacy located within Exception Area 525-1. Adjacent land east and west of Exception Area 525-1 is designated for residential use by the LCRCP. The residential settlement to the east also includes a small area zoned as a public facility, which is occupied by a fire station. The remaining adjacent land is designated for agricultural use.

B. Nearly all of the soils underlying Exception Area 525-1 are rated capability class II-III by the US Soil Conservation Service, which means they are suited for agricultural productivity. Most of these soils are rated cu. ft. site class II-IV by the Oregon Department of Forestry, indicating suitability for timber production. However, the Waldo and Oxley soils located in the northwestern section of the exception area, are not given a cu. ft. site class rating by the Oregon Department of Forestry. In addition, there is a small section of Waldo soils located in the eastern section of the exception area.

C. Exception Area 525-1 gains access from the southwest and northeast by Highway 126, a major transportation corridor in Lane County. In addition, Millican Road provides access from the southwest and Camp Creek Road provides access from the west. There are no public water or sewer systems. Fire protection is provided by Mckenzie Rural Fire Protection District, and the area is served by Springfield School District #19, which places it in special taxing district is 019-09.

D. Exception Area 525-1 is 140.6 acres in size, and is comprised of 74 parcels. The average parcel size is 1.9 acres; the largest parcel is 27.7 acres, and the smallest is .3 acres. Sixty-seven of the parcels were created prior to adoption of the State Planning Goals in 1974. The 7 remaining parcels were partitioned after adoption of the State Planning Goals, but prior to acknowledgment of the Lane County Rural Comprehensive Plan. The parcels were partitioned according to the statutory requirements of Chapter 92, Oregon Revised Statutes, and Chapter 13 Lane Code.

E. Exception Area 525-1 is located along Highway 126, approximately 6 miles east of Springfield. The exception area is located within farm region 5, which was one of the farm regions identified in the Lane County RCP Agricultural Land Working Paper (Addendum). The addendum states the 30 acres is the standard acreage for a commercial farm operation within this farm region.

F. Exception Area 525-1 is bound to the north by Camp Creek Road. Also, most of the parcels within the exception area are bound to the south by Highway 126 (McKenzie Highway). In addition, Millican Road bisects the western section of the exception area southwest to northeast. Further, the western section of Exception Area 525-1 is divided by a series of public roads providing access to the densely populated area.

G. The Lane County Land Management Division sent questionnaires to the owners of record of tax lots 300, 301, 302, 100, 200, 102, 203, 204, and 700. The responses indicated that:

The owners of tax lot 203 tried to raise corn and wheat in 1978 and 1979, but were unsuccessful due to poor condition of the soils. Also, all but a small section of the property has a high water table which limits its use for resource management. In addition, the property is located within 1,000 feet of a public restaurant, grocery store, post office, and pharmacy.

The owner of tax lot 300 indicates that approximately 50 percent of the property is covered with standing water during the winter months.

The owner of tax lot 301 states that his property is only 2 acres in size, contains rocky soil, and is fenced from adjoining properties, therefore, his property is not suited for agriculture.

VI. ATTACHMENTS

1. Reference Data Sheet
2. Parcelization & Development Summary
3. Regional Location Map
4. RCP Map
5. Taxlot Data-Alphabetical Listing by Owner's Name
6. Taxlot Data-Numerical Listing by Legal Description
7. U.S.D.A. Soils Map No. 78
8. U.S.G.S. Quadrangle Map
9. Map of parcels deleted from LCDC Acknowledgment Orders 89-ACK-569
10. 1989 Addendum to Lane County RCP Developed and Committed Lands Working Paper (under separate cover)

VII. FINDINGS

Land in the vicinity of the rural community of Walterville, and located along Highway 126, is designated for agricultural use by the Lane County Rural Comprehensive Plan. Exception to the RCP agricultural goal is taken for 140.6 acres of land within Section 28, Township 17, Range 1, which is elsewhere referred to as Exception 525-1. The exception is warranted because the land is developed or because it meets the criteria for irrevocably committed land specified in OAR 660-04-028(6):

a) Existing adjacent land uses

1. Although most of the land in the vicinity of Exception Area 525-1 is designated for agricultural use by the Lane County Rural Comprehensive Plan, adjacent land east and west of the exception area is in residential use. In addition, the land within Exception Area 525-1 is separated from adjacent agricultural land to the north by Camp Creek Road. Further, most of the land within the exception area is separated from adjacent resource land to the south by Highway 126.

b) Existing public facilities and services

1. The parcels located within Exception Area 525-1 are unsuitable for agricultural production because they are isolated and bisected by public roads. The land within the exception area is isolated from adjacent

resource land by Camp Creek Road and Highway 126. Camp Creek Road runs east and west, comprising the northern boundary of the exception area, while Highway 126 runs southwest to northeast, comprising the southern boundary of the exception area. Overall, the exception area is developed to the extent that it warrants fire protection from the McKenzie Rural Fire Protection District.

c) Parcel size and ownership, patterns of the exception area and adjacent lands

1. The 140.6 acres of land within Exception Area 525-1 are impracticable to manage for agricultural production because the 74 different ownerships produce an average parcel size of only 1.9 acres. The largest parcel is 27.7 acres and is located in the center of the exception area. Further, this parcel is contains large, wet areas that hinder resource management. Eight of the parcels were created prior to adoption of the State Planning Goals in 1974; the rest were either partitioned or subdivided in compliance with applicable legal requirements after adoption of the State Planning Goals, but prior to acknowledgment of the Lane County Rural Comprehensive Plan.

d) Neighborhood and regional characteristics

1. Nearly all of the parcels within Exception Area 525-1 are impracticable to manage for agricultural production because of the extent and pattern of homes within the area, according to agricultural experts who contributed to the 1989 Addendum to the Developed and Committed Lands Working Paper. These experts contend that parcels that are adjacent on two sides to parcels occupied by dwelling units must be at least 15 acres in size to be practicable for resource management and parcels adjacent on one side to parcels occupied with dwelling units must be at least 5 acres in size to be practicable for resource management. According to these standards, only one of the parcels within Exception Area 525-1 is practicable for farm management. However, this parcel is impracticable for farm management because it contains marsh areas that significantly reduce the amount of land available for resource production. In addition, this parcel is surrounded by 11 homes; and intensive farm management practices would be objectionable and incompatible to the residents.

e) Natural or man-made features or other impediments

1. The land within Exception Area 525-1 is impracticable to manage for agricultural production because it is separated from adjacent resource land by by public roads. One of these public roads is Highway 126, a major transportation route in Lane County. In addition, the western section of the exception area is bisected by a series of public roads that divide the area into smaller sections.

f) Physical development

1. Nearly all of the parcels within Exception Area 525-1 are occupied with homes, driveways, wells, septic systems, and outbuildings. If only one acre is applied to the each of the 76 homes within the exception area,

then approximately 52 percent of the area meets that statutory standard for an exception to State Planning Goal 3 as specified in ORS 197.732(a). The remaining land is irrevocably committed to non-resource use because of the close proximity of homes constructed prior to adoption of the State Planning Goals in 1974.

g) Other relevant factors

1. All but 11 of the 74 parcels within Exception Area 525-1 were acknowledged by the Land Conservation and Development Commission on 21 July 1989.

2. Most of these parcels are irrevocably committed to non-resource use according to the guidelines established by resource experts who contributed to the 1989 Addendum to the Developed and Committed Lands Working Paper. These experts contend that a parcel adjacent to parcels occupied by dwelling units on two sides must be at least 15 acres in size to be practicable for farm management. All but two of the parcels do not meet this threshold. These two parcels are tax lot 203 and tax lot 204.

3. Tax lot 204 is impracticable for farm management because it is a small, triangular shaped parcel only 2.5 acres in size. This parcel is occupied by a dwelling unit that is located in the middle of the tax lot. Therefore, one acre of the parcel is developed and meets the statutory standard for an exception as specified in ORS 197.732(a). The remaining 1.5 acres is impracticable for farm management because the small size and the irregular shape of the property hinders the use and maneuvering of standard farm machinery.

4. Although tax lot 203 is 27.7 acres in size this parcel is impracticable to manage for agricultural production because half of the parcel is covered with standing water during the winter months. This area is interspersed throughout the parcel, reducing the possibility of managing the property as a whole. In addition, the parcel is adjacent to 11 parcels occupied by dwelling units. The use of fertilizers, pesticides, insecticides, and heavy farm machinery necessary for farm management would likely be objected to by neighboring property owners.

VIII. CONCLUSION

Exception Area 525-1 meets the criteria of ORS 197.732 because approximately 50 percent of the land within the exception area is developed. The remaining land is irrevocably committed to non-resource use because of the small parcel size, the close proximity of homesites, the location of public roads isolating the exception area, and in some instances the presence of standing water limiting farm management practices.

DEVELOPED AND COMMITTED EXCEPTION FINDINGS

DATA SHEET

Map: 17-01-28 Plot: 525

Name: Hendrick's Park Road Exception Number: 1

The following were adopted by the corresponding ordinances in support of this developed and committed exception area.

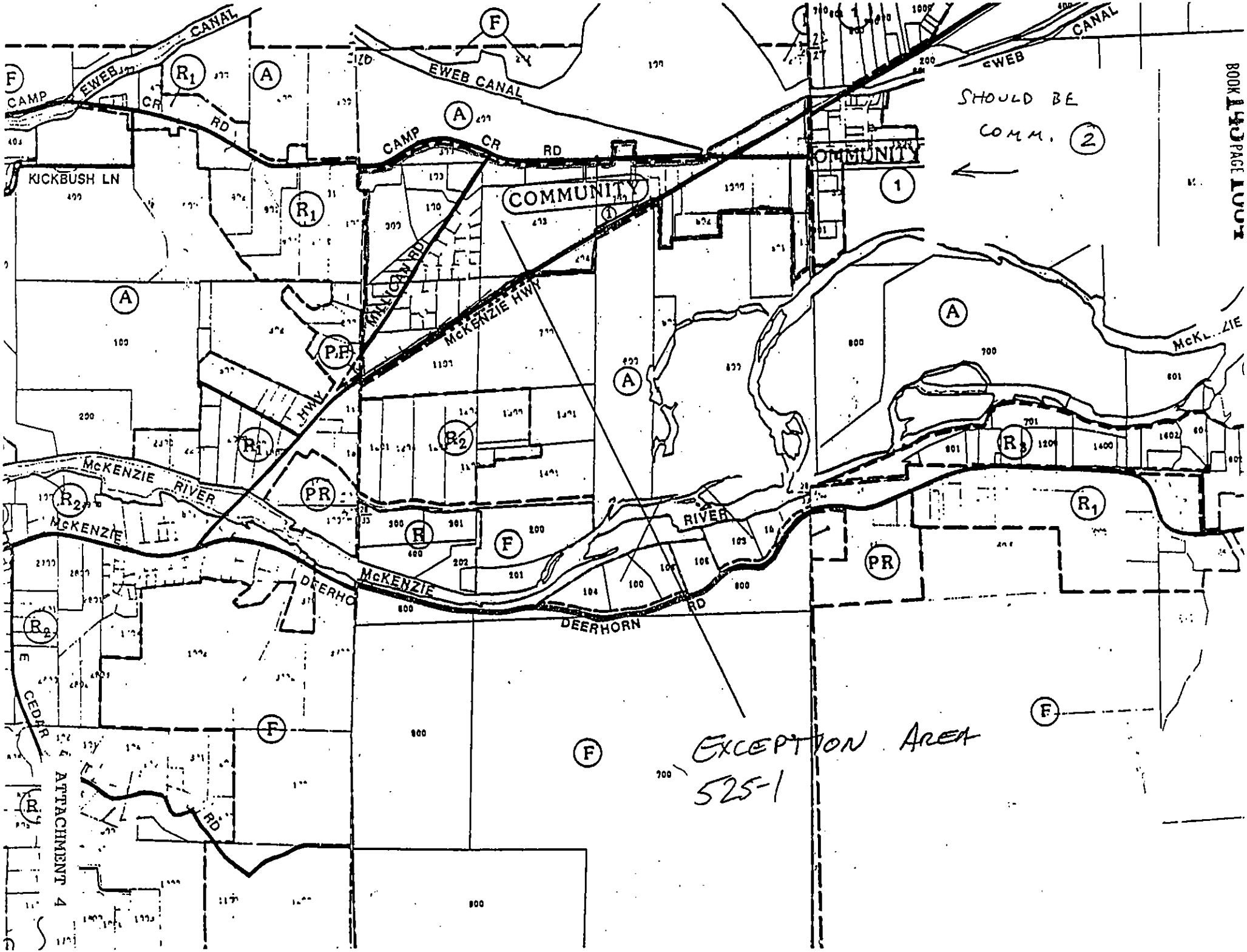
- Developed + Committed Lands Working Papers; adopted by Lane County Ordinance #PA 883.
- Plan Diagram Maps; adopted by Lane County Ordinance # PA 884.
- Zoning Maps; adopted by Lane County Ordinance # PA 884.
- Summary Exception Sheet; Plot: 525, Exception Number: 1; adopted by Lane County Ordinance # PA 884.

The following are additional data resources used to generate supplemental findings in support of this exception area:

- GIS Exception Plot No. 525
- GIS Exception Listing No. 525-1
- Aerial Photo Map Number: 17-01-28
- SCS Soil Survey Map Number: 78
- USGS Topographical Quadrangle Map: Marcola
- Lane County Tax Codes for Public Service Districts;

  School District: #19
  Fire District: McKenzie R.F.P.D.
  Water District: none

CPR #: 1553


EWEB CANAL
CAMP CR RD
KICKBUSH LN
COMMUNITY
McKENZIE HWY
McKENZIE RIVER
DEERHORN RD
SHOULD BE COMM. (2)
EXCEPTION AREA 525-1
ATTACHMENT 4
BOOK 1470 PAGE 1001

4/10/90

PARCELIZATION AND DEVELOPMENT SUMMARY SHEET
DEVELOPED AND COMMITTED EXCEPTIONS

Map: 17-01-22, 17-01-27 Plot: 535

Name: WALTERVILLE RURAL COMMUNITY Exception Number: 2

I. PARCELIZATION AND DEVELOPMENT PRIOR TO ADOPTION OF STATE PLANNING GOALS:

Number of Parcels	37
Number of Dwellings	33
Other Uses(SEE ORIGNAL FINDINGS)	

II. PARCELIZATION AND DEVELOPMENT SINCE ADOPTION OF STATE PLANNING GOALS AND PRIOR TO ACKNOWLEGDEMENT OF COMPREHENSIVE PLAN:

Parcels Created Pursuant to Goals 3 and 4	0
Parcels Created by Exception to Goals 3 and 4	0
Parcels Created Without Findings	6 (6)
Subtotal of Parcels	6 (6)
Number of dwellings	1
Number Of Other Uses ( )	

III. PARCELIZATION AND DEVELOPMENT SINCE ACKNOWLEDGEMENT OF COMPREHENSIVE PLAN:

Number of Parcels	0
Number of Dwellings	0
Number of Other Uses( )	

IV. PARCELIZATION AND DEVELOPMENT SUMMARY:

Total Acreage	87.8
Total Number of Parcels	43
Largest Parcel	10.3
Average Parcel Size	2.0
Total Number of Dwellings	34

REMARKS - 535.2

4/24/90

(1). acreages on T2's being dropped:

17-01-22-3-100	0.1
-200	3.0
-300	10.3
-400	8.7
-1000	3.0
17-01-27-22-1500	5.4
	30.5 acres

(2). longest lot - either 17-01-22-3-600 or 17-01-22-3-701 ; each is 5.0 acres.

EXHIBIT "J"

DEVELOPED AND COMMITTED LANDS EXCEPTIONS

(SUPPLEMENTAL FINDINGS
WITH REVIEWED PARCELS)

DLCD/LIBERTY REVIEW DATE: 10-17-88

Map: 17-01-22, 17-01-27 Plot: 535

Name: Walterville Rural Community Exception Number: 2

Due to objections by 1,000 Friends of Oregon, additional supplemental findings may have to be prepared to further address Developed and Committed status on these parcels:

TRS/Tax Lots
17-01-22.3: 200,300,400,1000;
17-01-27.22: 1500

However, these parcels are not being excluded from the supplemental findings contained in this exhibit.
Additional findings, if developed, will be brought separately before the Board of County Commissioners for adoption.

11. PARCEL CREATION HISTORY

a) 36 parcels were created before adoption of the goals, determined as follows:

i. Using the boundaries and dates of partitions which have been plotted from the Lane County Assessment and Taxation maps onto the computer drawn map of the exception area, the total number of parcels in this category created prior to December 27, 1974 is: 0.

ii. Using the boundaries and dates of subdivisions which have been plotted from the Lane County Assessment and Taxation maps and survey records onto the computer drawn map of the exception area, the total number of parcels in this category created prior to December 27, 1974 is: 0.

iii. Using the Lane County computer drawn map and year-built data for residences which have been plotted onto the computer drawn map of the exception area, the total number of parcels not included in above categories i. and ii. and having a residence built prior to December 27, 1974 is: 19.

iv. Using the Lane County Assessment and Taxation maps and year-built data for residences which have been plotted onto the computer drawn map of the exception area, the total number of parcels not included in above categories i., ii. and iii. either vacant or having a residence with built-upon data after December 27, 1974 is: 1. It is assumed that parcels in categories iii. and iv. were created prior to December 27, 1974 for two reasons. The first reason is that the parcel had a residence on it prior to 12/27/74 which indicates that the parcel existed in some form prior to 12/27/74. The second reason requires a more detailed explanation. On March 26, 1975, Lane County adopted land division regulations which required County approval of all partitions and recording of partition maps for all approved partitions. The 3/26/75 land division ordinance adoption date corresponds closely to the 12/27/74 Goal adoption date. It is generally accurate to assume that, if parcels were created after 12/27/74, they would be included in an approved and recorded partition map; and, that parcels without an approved and recorded partition map were created before 12/27/74.

v. Using the Lane County computer drawn map with the year built data and the partition and subdivision data plotted on it, the total number of parcels not included in an approved and recorded partition or subdivision, and being vacant or having a residence without built-upon data prior to 12/27/74 is: 16. It is assumed that these parcels were created prior to 12/27/74 for the same reasons as stated in the second reason in iv. above.

b) 6 parcels were created after the adoption of the 12/27/74 goal adoption date based upon use of the boundaries and dates of partitions and subdivisions which have been plotted onto the computer drawn map of the exception area and identification of the parcels included in this category which were created after 12/27/74.

12. GOAL COMPLIANCE HISTORY

0 parcels were created via application of the Goal 2 Developed and Committed Lands Exceptions process. This number was determined by examining the files for partitions and subdivisions created in 1980 or later to verify if developed-and-committed findings were included in these files as part of the basis for approving the partitions or subdivisions. It is assumed the Developed and Committed Lands Exceptions process was not followed for partitions and subdivisions created before 1980.

13. DEVELOPED AND COMMITTED RATIONALE

The result of all of this development is that land within this exception area is unsuitable for agricultural or forest uses because of the following factors:

- small tract sizes as determined by dividing the acreage of the exception area: 87.82 by the # of parcels in the exception area: 42 = an average parcel size of 2.09 acres;
- fragmented ownerships unlikely to consolidate (contiguous ownerships are identified on map with struances);
- close proximity to residential development;
- the residential pattern of development: 35 residences in the exception area, but the community has a total of 125 dwellings;
- acreage by zoning categories within the community are: 162 acres of RR2, 58 acres of RR5, and 2.5 acres of commercial;
- public facilities and commercial developments within the community include Retail Store, Restaurants, Bank, Pharmacy, Park, Grange Hall, and Church;
- estimated population is 320 people;
- the residential development is generally clustered around Mckenzie Highway, Walterville Lane, and Page Lane serving the exception area;
- the development within the exception area is clustered within a large group;
- a natural feature Mckenzie River separates the exception area from adjacent resource land making it difficult for the development to spread and/or making it difficult for parcels within the exception area to be combined with adjacent resource lands;
- any agricultural or forest uses within the exception area appear to be accessory to the residential use of the parcels because of the residential use of the parcels and their small sizes.

Background data in Lane County's Working Papers support the policy direction that clustered small parcels in fragmented ownerships in close proximity to residential development and/or developed with residences cannot reasonably be considered suitable for the continuation of commercial farm and forest uses.

"to qualify, an area must consist of at least four tracts (not parcels - see definition of 'tract' below*) which are contiguous to one another, a majority of which have been built upon. However, individual isolated commercial and industrial activities, regardless of the number of tracts involved, are considered for D&C status. Public facilities such as schools, are also considered. In most cases, all tracts must be 10 acres or less in size, unless other factors render larger tracts unsuitable for resource use and/or committed to development." Source: Lane County Developed and Committed Working Paper, August 1983.

Refer to the original findings sheet for this exception area for the specific details on the number of tracts, total acreage, average tract size, number of residences, number of other uses, number of vacant tracts, and development pattern.

*'Tract' refers to a lot within an approved and recorded subdivision plat, or a parcel within an approved and recorded partition map, or a parcel within an approved minor subdivision, or undivided/unpartitioned land under the same ownership. Contiguous units of the last type shall be considered a single tract.

DEVELOPED AND COMMITTED EXCEPTION FINDINGS

DATA SHEET

Map: 17-01-22, 17-01-27 Plot: 535

Name: Walterville Rural Community Exception Number: 2

The following were adopted by the corresponding ordinances in support of this developed and committed exception area.

- Developed + Committed Lands Working Papers; adopted by Lane County Ordinance #PA 883.

- Plan Diagram Maps; adopted by Lane County Ordinance # PA 884.

- Zoning Maps; adopted by Lane County Ordinance # PA 884.

- Summary Exception Sheet; Plot: 535, Exception Number: 2; adopted by Lane County Ordinance # PA 884.

The following are additional data resources used to generate supplemental findings in support of this exception area:

- GIS Exception Plot No. 535

- GIS Exception Listing No. 535-2

- Aerial Photo Map Number: 17-01-22, 17-01-27

- SCS Soil Survey Map Number: 63,78

- USGS Topographical Quadrangle Map: Marcola

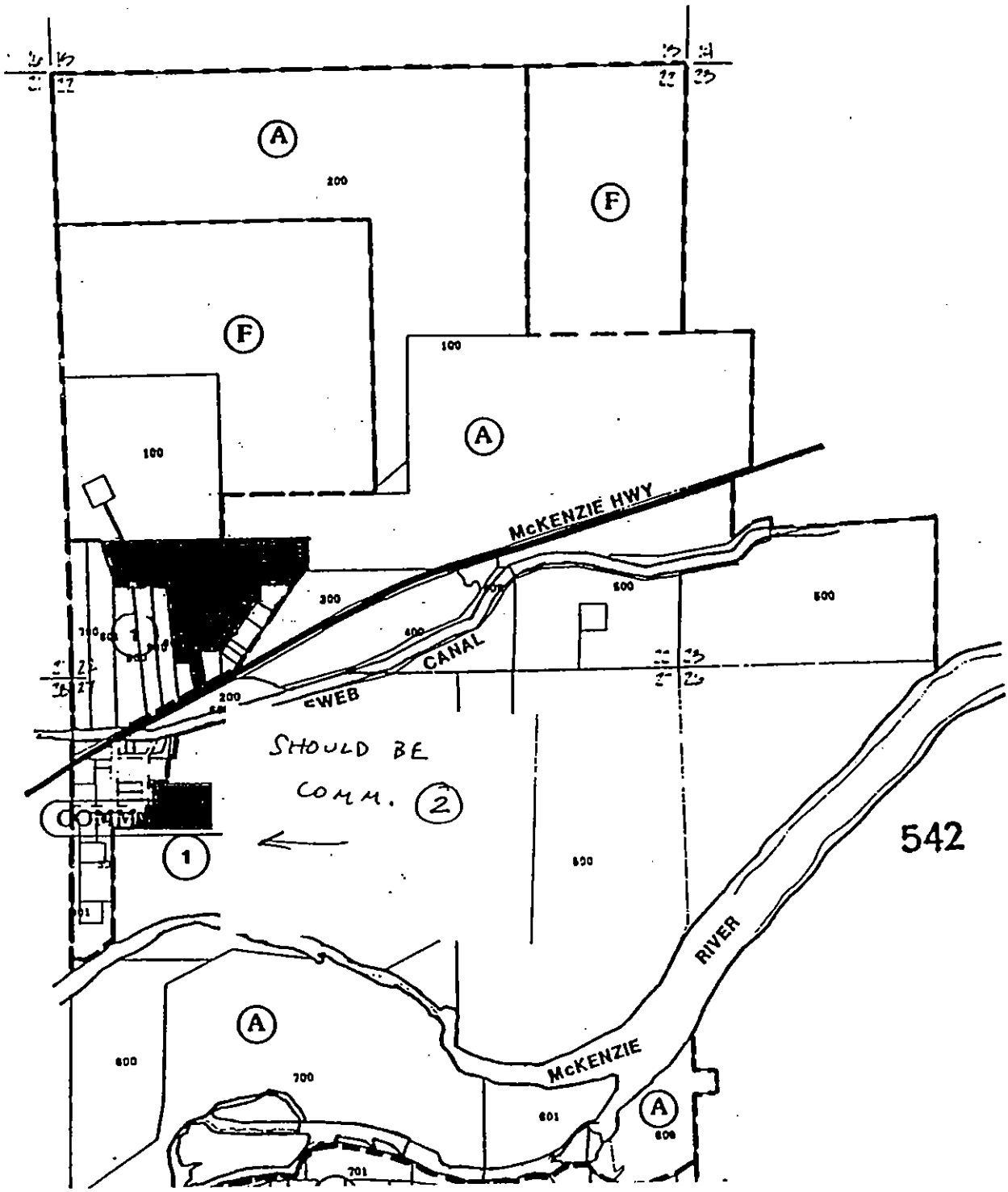
- Lane County Tax Codes for Public Service Districts; 019-09

School District: #19-Springfield
Fire District: Mckenzie R.F.P.D.
Water District: None

____ Other: LANE COUNTY'S RURAL COMMUNITIES
A review of Rural Development Pattern by Roy Burns (Land Management Division Manager) and Steve Gordon (Senior Program Manager, Lane Council of Governments) February 1988.

CPR # 1746

524A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April 14, 2004

TO: LANE COUNTY BOARD OF COMMISSIONERS
FROM: LAURI SEGEL, LANE COUNTY PLANNING ADVOCATE Lauri Segel
SUBJECT: PA 01-5875, GRANT PLAN AMENDMENT/ZONE CHANGE REQUEST

My comments pertaining to PA 01-5875 are being submitted on behalf of 1000 Friends of Oregon. We believe this proposal exemplifies many of the issues that are often overlooked during the County's review of land use proposals for conversion of resource lands to nonresource, and that the applicant has failed to establish a basis for approval of the proposal.

This application is for a Plan amendment and zone change from "Agricultural Land" to "Nonresource" (from "E-30/Exclusive Farm Use" to "RR-5/Rural Residential") for a 30.19 acre parcel. The subject property is bordered by agricultural resource lands on its east, south and west boundaries.

Three minutes is not enough time to address all issues that this proposal raises. I will touch on just two points: the subject parcel's status as high value farm land and it's suitability for farm use.

First, with regard to this parcel's status as high value farmland, we have no dispute concerning the soil types present on the parcel. However, the applicant's soil scientist's attempt to justify his position that the NRCS soils documentation incorrectly characterizes Sifton gravelly loam as class IVs is inappropriate , as is his effort to recharacterize sifton gravelly loam as Class V. This conclusion is both contrary to the directive of OAR 660-033-0020(8)(c)(B)[1], and is outside the scope permitted to provide more detailed soils data. Goal 3 does allow for more site specific information to refine the soils mapping done by the NRCS, but it does not allow for a challenge to the "Soil Capability Classification System of the United States Soil Conservation Service." [2]

Secondly, the applicant and the proposed findings state that the only "feasible" farm use of the subject property is for an existing filbert orchard, and that all other farm uses are

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[1] (8)(c) In addition to that land described in subsection (a) of this section, high value farmland, if in the Willamette Valley, includes tracts composed predominantly of the following soils in Class III or IV or composed predominantly of a combination of the soils described in subsection (a) of this section and the following soils: (B) Subclassification IIIw, specifically, Concord, Conser, Cornelius, Variant, Dayton (thick surface) and Sifton (occasionally flooded);

[2] OAR 660-033-0030(6) "More detailed data on soil capability than is contained in the U.S. Natural Resources Conservation Service (NRCS) soil maps and soil surveys may be used to define agricultural land. However, the more detailed soils data shall be related to the U.S Natural Resources Conservation Service (NRCS) land capability classification system."

BCC ATTCH. #2 - 2 Pg. →

"impracticable." However, "impracticability" for farm use is not within the scope of allowable considerations in identifying "agricultural land." Rather, if the land is predominantly composed of Class I-IV soils, as is the case with this parcel, it is "agricultural land" under Goal 3. OAR 660-033-0030(5)[3] precludes considering profitability or gross farm income in determining whether land is agricultural land.

Finally, the question of suitability for farm use considers whether the parcel is part of a farm unit; because the subject property has historically been part of a farm operation and continues to be adjacent to land in farm use, it could reasonably be put to farm uses and therefore is agricultural land protected by Goal 3. The Oregon Court of Appeals has found that lands are considered part of a farm unit when they are farmed in common ownership, and has explained that the purpose of the "farm unit" rule is the preservation of the unit as a whole.[4] The subject parcel is currently in common management and a part of a farm operation with land that contains soils of the specified capability; as such, it is part of a "farm unit" and must therefore be inventoried as agricultural land.

There are other relevant issues that the Board needs to consider in deliberating on this application, and I want to thank you in advance for taking time to carefully review all the facts before making a decision.

---

[3] (5) Notwithstanding the definition of "farm use" in ORS 215.203(2)(a), profitability or gross farm income shall not be considered in determining whether land is agricultural land or whether Goal 3, "Agricultural Land," is applicable.

[4] *Meyer v. Lord,* 37 Or App 59, 1978.

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GOAL ONE COALITION

Recd 4-15-04

39625 Almen Drive
Lebanon, Oregon 97355
Phone: 541-258-6074
Fax: 541-258-6810
goal1@pacifier.com

April 14, 2004

Lane County Board of Commissioners
125 East 8th Avenue
Eugene, Oregon 97401

RE: Lane County File # PA 01-5875, Grant

Commissioners:

The Goal One Coalition (Coalition) is a nonprofit organization whose mission is to provide assistance and support to Oregonians in matters affecting their communities. The Coalition is appearing in these proceedings at the request of and on behalf of its membership residing in Lane County. The following comments are submitted on behalf of the Goal One Coalition; LandWatch Lane County; and Robert Emmons, President of LandWatch Lane County, as an individual.

This application is for a Plan amendment and zone change from "Agricultural Land" to "Nonresource" and from "E-30/Exclusive Farm Use" to "RR-5/Rural Residential" for a 30.19 acre parcel identified as map 17-01-28, tax lot 700. Current improvements include a single family dwelling, a barn, and two outbuildings. The parcel is covered with a filbert orchard. The subject property is located in an Impacted Big Game Range.

The subject property is bordered by agricultural resource lands on its east, south and west boundaries. The applicant also owns the 58 acre E-30 zoned parcel to the east and south of the subject parcel, and uses it to raise sugar beets. The applicant also leases 12 acres of the 17 acre E-30 zoned parcel to the west, and uses it to raise sugar beets.

If the application to redesignate the subject property from a resource designation to a nonresource designation is to be approved, the county must find that the subject property is neither "agricultural land" protected by Statewide Planning Goal 3 nor "forest lands" protected by Goal 4.

I. THE SUBJECT PROPERTY IS AGRICULTURAL LAND PROTECTED BY GOAL 3.

Goal 3 defines "agricultural land" to include:

BCC ATTCH. #3 - 46 pp.

> "Agricultural land in western Oregon is land of predominantly Class I, II, III, and IV soils . . . as identified in the Soil Capability Classification System of the United States Soil Conservation Service, and other lands which are suitable for farm use taking into consideration soil fertility, suitability for grazing, climatic conditions, existing land-use patterns, technological and energy inputs required, or accepted farming practices. Lands in other classes which are necessary to permit farm practices to be undertaken on adjacent or nearby lands, shall be included as agricultural land in any event.

The Goal 3 definition is reiterated in OAR 660-033-0020(1)(a). OAR 660-033-0020(1)(b) further defines "agricultural land" to include:

> "Land in capability classes other than I-IV . . . that is adjacent to or intermingled with lands in capability classes 1-IV . . . within a farm unit, shall be inventoried as agricultural lands even though this land may not be cropped or grazed[.]"

Goal 3 allows:

> "More detailed soil data to define agricultural land may be utilized by local governments if such data permits achievement of this goal."

1. The subject property is high value farm land.

The applicant's narrative, the staff memo, and the proposed findings state that the soils on the subject property are: Cloquato silty loam, capability class II, 2.4 acres, 8%; Oxley gravelly silt loam, IIIw, 3.6 acres, 12%; Sifton gravelly loam, IVs, 24.2, 80%. The Sifton soil unit is mischaracterized as class IVs. The NRCS soil survey has determined that Sifton gravelly loam has an agricultural capability of IIIs, irrigated or nonirrigated.[1] OAR 660-033-0020(8)(c)(B) specifically identifies the Sifton unit as "High Value Farmland."

Gary Kitzrow, the soil scientist retained by the applicant, in his Soils Report and in his follow-up letter of July 7, 2003 does not dispute that 80% of the soils on the subject property are properly identified as Sifton gravelly loam. Rather, he argues and concludes that it should more accurately be assigned an agricultural capability classification of Class V. This conclusion is contrary to the directive of OAR 660-033-0020(8)(c)(B).

Mr. Kitzrow's conclusion is also outside the scope permitted to provide more detailed soils data. Goal 3 allows more site specific information to refine the soils mapping done by the NRCS. However, it does not allow for a challenge to the "Soil Capability Classification System of the United States Soil Conservation Service." OAR 660-033-0030(6) provides:

> "More detailed data on soil capability than is contained in the U.S. Natural Resources Conservation Service (NRCS) soil maps and soil surveys may be used to define agricultural land. *However, the more detailed soils data shall be related to the U.S Natural Resources Conservation Service (NRCS) land capability classification system."* (Emphasis added.)

[1] ftp://ftp-fc.sc.egov.usda.gov/MO1/tab_pdf/oregon/or637/or637yields1.pdf . See Exhibit 1.

Mr. Kitzrow does not provide an analysis explaining, based on the specific criteria used by the NRCS to classify soils, that the soils should be reclassified to something other thaN what the NRCS soil survey has determined them to be. Mr. Kitzrow argues that the soils remain properly classified but that they should nevertheless be considered as unsuitable for farm use because of high rock content and low water holding capacity. Thus Mr. Kitzrow agrees that the soil unit is Sifton, but argues that the NRCS has improperly assigned it a agricultural capability of IIIs.

The Soil Survey describes the Sifton unit as suitable for agriculture:

> "This unit is used mainly for pasture, orchards, small grain, and vegetables. * * *
>
> "This unit is suited to a wide variety of irrigated crops. It is limited mainly by droughtiness. In summer, irrigation is required for production of most crops.
>
> "Fertilization and irrigation require careful management. Frequent and light applications of fertilizer and water are needed because of the coarse texture of the soil and the low available water capacity. The gravelly surface layer hinders cultivation and harvesting of root crops, but it allows intensive use of the soil for berries, beans, or pasture without damage by compaction.
>
> "This unit is suited to hay and pasture. Use of lime, nitrogen, and phosphorus promotes good growth of forage plants. Proper grazing practices, weed control, and fertilizer are needed to ensure maximum quality of forage. In most years, supplemental irrigation is also needed."[2]

The applicant's information indicates that irrigation rights are available for 6 acres. The Soil Survey shows that the Sifton unit can support 5 AUM nonirrigated, and 12 AUM irrigated.

The applicant has argued, and the county's proposed findings state, that the only "feasible" farm use of the subject property is for the existing filbert orchard, which is infested with filbert blight; and that all other farm uses are "impracticable." "Impracticability" for farm use is not within the scope of allowable considerations in identifying "agricultural land." Even if the land is not considered good for farming or profitable to farm, if it is predominantly composed of Class I-IV soils, it is "agricultural land" under Goal 3. OAR 660-033-0030(5) precludes considering profitability or gross farm income in determining whether land is agricultural land or whether Goal 3, "Agricultural Land", is applicable.

Mr. Kitzrow has improperly removed the outbuildings and roads from the acreage tabulation. The construction of farm dwellings, barns, other structures, and roads necessary to move equipment and to access fields and orchards is either "farm practices" or "necessary to permit farm practices to be taken on adjacent or nearby agricultural land." Such lands are therefore agricultural lands as defined by OAR 660-033-0020(1)(a)(C).

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[2] *Soil Survey of Lane County, Oregon*, p. 135.
ftp://ftp-fc.sc.egov.usda.gov/MO1/text_pdf/oregon/or637_text.pdf

2. The subject property is "suitable for farm use."

OAR 660-033-0030 requires that any determination of whether land is "suitable for farm use" requires an inquiry into factors beyond the mere identification of scientific soil classifications. All factors listed set forth in OAR 660-033-0020(1)(a)(B) must be considered. In addition, the inquired inquiry must consider:

> "conditions existing outside the lot or parcel being inventoried. Even if a lot or parcel is not predominantly Class I-IV soils or suitable for farm use, Goal 3 nonetheless defines as agricultural 'lands in other classes which are necessary to permit farm practices to be undertaken on adjacent or nearby lands."

a. The subject parcel is part of a farm unit.

OAR 660-033-0020(1)(b) requires that land in capability classes other than I-IV that is adjacent to or intermingled with lands in capability classes I-IV within a farm unit "be inventoried as agricultural lands even though this land may not be cropped or grazed." The applicant himself concedes that 33% of the subject parcel is composed of agricultural soils. Even if, for the sake of argument, it is accepted that the Silton soils characterized by the applicant's expert as Class V soils are not agricultural soils, these soils are intermingled with and adjacent to Class I-IV soils within a farm unit and are therefore agricultural soils protected by Goal 3.

It is undisputed that sheep were raised on the subject tract in the 1950s. It is undisputed that the subject property was purchased by the applicant's parents in 1976 as an undivided part of a 107 acre tract. Mint was grown on the tract. Exactly which lands on the subject tract were used for mint has not been delineated.

The applicant currently operates a farm unit consisting, in addition to the subject property, of the 58 acre E-30 zoned parcel to the east and south of the subject parcel, used to raise sugar beets; the leased 12 acres of the 17 acre E-30 zoned parcel to the west, also used to raise sugar beets. The applicant concedes that the terrace was planted with filbert "trash trees." It is not clear whether the applicant would have had more success growing filberts had he planted better quality trees.

It is undisputed that the applicant resides in the dwelling on the subject property; and that the subject property contains, in addition to the farm dwelling, a barn and two other farm outbuildings.

The 30.19-acre parcel sits in the middle of the applicant's farm operation. The owner grows sugar beets on the owned parcel to the east and south, and on the leased parcel to the west. The owner's homestead, barn and outbuildings serve as the headquarters for the farm. The owner has established an orchard on the subject property, although the applicant argues that it is diseased and has not been profitable. Lands, even "poor" lands in a different crop, are part of a farm unit when they are farmed in common ownership. *Meyer v. Lord,* 37 Or App 59, 1978.

The Court of Appeals has explained that the purpose of the "farm unit" rule is the preservation of the unit.

> "The fact that all of the land comprises a single operating farm unit makes the quality of particular parts of it a marginal factor in determining whether the unit is "agricultural," and a central consideration in identifying the rule's objective to be the preservation of the unit as a whole." *Dept. of Land Conservation v. Curry County*, 132 Or App 393, 398, 888 P2d 592 (1995).

Common management or farm operation with land that contains soils of the specified capability is relevant to whether a parcel is farm land. *Historical* use of a property as part of a farm unit can be relevant to whether it *currently* qualifies as such:

> "For example, a parcel would not be part of a "farm unit" simply because concurrent farm operations occurred on it and nearby land 50 years ago. Conversely, as respondents point out, in *Dept. of Land Conservation*, we identified the purpose of the rule "to be the preservation of the unit"; it would be squarely contrary to that purpose to interpret the rule as contemplating that a parcel could cease being part of the unit simultaneously with and simply because of the discontinuation of farm operations on it or its ostensible sale for non-farm purposes. This case is closer to the latter extreme than the former. LUBA was correct in holding that further proceedings are necessary at the county level to identify the relevant facts." *Riggs v. Douglas County,* 167 Or App 1, 5, 1 P3d 1042 (2000).

Land that is *currently* in common management or farm operations with land that contains soils of the specified capability is part of a "farm unit" and must therefore be inventoried as agricultural land.

b. The subject property is "lands . . . which are necessary to permit farm practices to be undertaken on adjacent or nearby lands."

OAR 660-033-0030(3) requires that nearby land be examined, regardless of ownership. Farm practices must be identified. If the subject parcel is to be redesignated as nonresource land, it must be explained how the subdivision and increased development on the subject 30-acre parcel will not affect or interfere with the continued farming on the remaining portions of the existing farm operated by the applicant, as well as other farming operations in the area.

The subject site has historically been part of a tract that was put to farm uses, and remains part of a "farm unit." In determining whether the subject lands are "lands which are suitable for farm use," the county must determine what farm uses are occurring on "nearby or adjacent lands." The purpose of this inquiry is two-fold. First, the county is to ascertain the nature of other farm uses occurring in the area and determine whether the subject site could be put to similar uses. Second, the county is to determine whether the subject lands can reasonably be combined with such nearby or adjacent uses and used as part of those operations. *Kaye/DLCD v. Marion County,* 23 Or LUBA 452, 460-61 (1992). Because the subject property has historically been part of a farm operation and continues to be adjacent to farm

lands, it could reasonably be put to farm uses and therefore is agricultural land protected by Goal 3.

Converting the subject parcel to nonfarm use would make it much more likely that the leased 12 acres on the parcel immediately to the west of the subject parcel and currently used by the applicant would no longer be farmed. Access to that acreage by a farm operator would be considerably more difficult.

The existing farm dwelling, barn and outbuildings could be used by another farm operator in the management of adjacent or non-adjacent farmland. Proposed Findings of Fact, Summary of Issues, General Overview 17 concedes that it is difficult to build on agricultural land. Therefore, the subject property must be considered agricultural land because it is needed to permit farming on nearby farmland because other farmers could use it for the management of their farmland.

3. Compliance with Goal 3 cannot be determined.

Because the legal boundaries of the subject property have not been correctly identified, it cannot be determined from evidence in the record whether the subject property is agricultural land protected by Goal 3.

II. THE SUBJECT PROPERTY IS FOREST LAND PROTECTED BY GOAL 4.

Goal 4 defines forest lands:

> "Forest lands are those lands acknowledged as forest lands as of the date of adoption of this goal amendment. Where a plan is not acknowledged or a plan amendment involving forest lands is proposed, forest lands shall include lands which are suitable for commercial forest uses including adjacent or nearby lands which are necessary to permit forest operations or practices and other forested lands that maintain soil, air, water and fish and wildlife resources."

If the application is to be approved, the applicant must establish that the subject property is not forest land protected by Goal 4.

1. The subject property constitutes "lands suitable for commercial forest uses."

The NRCS Soil Survey and the applicant's soil scientist agree that the 123 Sifton unit is found on 80% of the subject property. The NRCS has assigned this unit a site index for Douglas-fir of 124, and a cf/ac/yr capability of 182. See Exhibit 1-2.

Proposed General Finding 19 states that "[m]ost of the Subject Property contains soils that are unsuitable for commercial forest land." This Finding is not correct, and is not responsive to the inquiry required, which is whether the land is suitable for commercial forest *uses.*

Proposed General Finding 19 continues:

"Mr. Bob Booth, a professional consulting forester, has prepared a report concerning the site. The soil descriptions and Table 6 Woodland Management and Productivity with the Soil Survey of Lane County Area, Oregon does not list Cloquato, Oxley , or Sifton soils as being suited for the production of Douglas-fir or any other fir or deciduous tree species. In 1997, Lane County revised the agricultural capability and forest ratings of many soils. At that time, the Sifton unit was rated as having a forest capability of 182 cubic feet per acre per year. The Forestry report for the site has found that this designation appears to be an error based on the low water holding capacity of the soil, droughty conditions and a lack of irrigation. It is also possible that the Sifton variant present on the site is so rocky that the forest capability for normal Sifton soils does not apply. These conditions have been documented by the onsite soil analysis and by the Forestry report and study. The property has no historic use as forest land."

Goal 4 protects "forestland." It is capability or potential for production, measured as cf/ac/yr of commercial tree species, that is at issue in determining a property's suitability for commercial forest uses. *Potts v. Clackamas County,* 42 Or LUBA 1 (2002).

OAR 660-006-0003(1) provides:

"OAR Chapter 660, Division 006 applies to all forest lands as defined by Goal 4."

OAR 660-006-0010 provides, in relevant part:

"Governing bodies shall include an inventory of 'forest lands' as defined by Goal 4[.] * * * If site information is not available then an equivalent method of determining forest site suitability must be used."

OAR 660-006-0005(2) provides:

"'Cubic Foot Per Acre' means the average annual increase in cubic foot volume of wood fiber per acre for fully stocked stands at the culmination of mean annual increment as reported by the USDA Natural Resources Conservation Service (NRCS). Where NRCS data *are not available or are shown to be inaccurate*, an alternative method for determining productivity may be used. *An alternative method must provide equivalent data and be approved by the Department of Forestry.*" (Emphasis added.)

The Booth letter of July 1, 2003 relied upon by the applicant and referred to in the proposed General Finding 19 concludes:

"It is my opinion that the current soil forest productivity rating of 182 for the Sifton gravelly loam soil is an error, and at minimum should be critically reviewed by the SCS.

"In conclusion, I do not believe the areas of Sifton gravelly loam soil will produce a viable Douglas Fir crop of commercial value."

Neither the applicant's soils scientist nor forestry consultant have shown that the available NRCS data pertaining to the Sifton soils unit is inaccurate. They do not challenge the soils mapping on the subject property. Rather, they challenge NRCS's assignment of a 182 cf/ac/yr productivity rating to the soils unit. Because they have not shown the available NRCS data to be inaccurate, no alternative method for determining productivity may be used.

If the applicant's experts are asserting that NRCS data is inaccurate, they have not demonstrated that they have provided equivalent data using methodology that has been approved by ODF. LUBA has explained what "equivalent data" means:

> NRCS data are expressed directly in terms of the ultimate legal standard, *i.e.*, cubic feet per acre per year. * * * The rule's requirement for "equivalent data" requires that any alternative methodology must be capable of expressing that data as "cubic feet per acre per year," as NRCS does, or as equivalent data." *Carlson v. Benton County,* __ Or LUBA __ (LUBA No. 99-132, April 2000).

The methodology used must be approved by the Department of Forestry:

> "[A]bsent such a review and approval by ODF, we cannot say ODF has approved the methodology[.] *Carlson v. Benton County,* __ Or LUBA __ (LUBA No. 99-132, April 2000).

In evaluating the capability of the subject parcel for forest productivity, the applicant has improperly assumed that unrated soils have zero capability for timber production, has disregarded NRCS data without providing any alternative productivity data in support of his allegation that the NRCS data is erroneous, and has failed to establish that he used an alternative method of determining productivity that provides data equivalent to NRCS data and that has been approved by the Department of Forestry.

a. Lack of rating does not mean a soil is not suitable for forest production

It is well established that the lack of a soil productivity rating does not mean that a soil has no capability for forest production. James Hecker, NRCS Resource Conservationist, has stated:

> "There is a misunderstanding when soils are not rated for forest production. It does not mean these soils are 'nonproductive,' but rather are 'typically' used for agriculture and have been rated for that use with predicted yields and given a Capability Class Rating for crop production." [3]

Thor Thorson, NRCS Soil Data Quality Specialist, in response to the question "Does the lack of [NRCS] data on site productivity indicate a soil is unsuitable for timber production?" has stated:

[3] *Carlson v. Benton County*, 34 Or LUBA 140, 149 (1998).

> "No; only that suitable timber sites were not measured at the time the survey was conducted, or since the survey was completed. The soils therefore may or may not be capable of timber production at some level."[4]

James Johnson, Farm/Forest Coordinator with the Department of Land Conservation and Development, stated that for purposes of OAR 660-06-005(2):

> "The applicants cannot simply depend on a 'nonrating' to make a case that soils located on a site are not productive. OAR 660-06-005(2) . . . requires the applicants to provide other methods, with equivalent data, to show the productivity of the subject soils. A statement that the soils are unrated does not provide a method with data equivalent to NRCS data used to determine productivity."[5]

Forestry expert Marc Barnes has stated:

> "[T]he lack of wood fiber productivity data in the Soil Survey of Benton County for certain soil types does not mean that the soil type is unsuitable for wood-fiber production, only that at the time the survey was conducted, wood fiber productivity data was not collected for these soil types, since they were being used predominately for other purposes -- mainly agriculture."[6]

LUBA rulings have established as law that the lack of a NRCS rating provides no information, quantitative or otherwise, pertinent to the statutory test of whether a soil is capable of producing defined levels of wood fiber. *Carlson v. Benton County*, 34 Or LUBA 140, 149 (1998).

The applicant has submitted a letter from Robert Booth, Consulting Forester, which states, in relevant part:

> "The Sifton gravelly loam requires uses of frequent nitrogen and phosphorus applications to promote growth for leafy vegetation because of the rapid percolation of water. This would be no less true for the growth of conifers, requiring a much higher intensity of management and expense than would be required for soil areas that are unquestionably forest soils.
>
> "The owner transplanted three Douglas fir trees from local native stock. * * * These trees are about 25 years old, have many large limbs, have rounded crowns, and very poor 'form class" (ratio of diameter outside the bark at 16 feet above stump height and the diameter breast height). A high form class tree will have a tree bole that is more cylindrical and makes a log with less taper than a low form class tree. These factors all indicate that the site is not well suited to growing Douglas fir."

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[4] *Carlson v. Benton County*, 34 Or LUBA 140, 149 (1998).
[5] *Carlson v. Benton County*, 34 Or LUBA 140, 149 (1998).
[6] *Carlson v. Benton County*, 34 Or LUBA 140, 149 (1998).

The information provided by the applicant regarding the forest capability of the Sifton unit merely asserts without providing any evidence that the NRCS rating of 182 cf/ac/yr is not accurate. The information provided by the applicant has not used an alternative method of determining productivity that provides data equivalent to NRCS data. Productivity has not been determined and expressed as cf/ac/yr. as required by OAR 660-006-0005(2). The applicant has not established that either the data or the methodology have been approved by the Department of Forestry.

The applicant has not provided any information whatsoever concerning the Cloquato or Oxley soil units. The State Forester has determined that the Oxley unit has a capability of 80 cf/ac/yr for Douglas-fir, and the Cloquato unit 120 cf/ac/yr.[7]

The Department of Forestry has stated that the methodology it approves to determine the productivity of an area is contained in the *Field instructions for forest surveys in Washington, Oregon, and Northern California. USDA Forest Service, PNE Range and Experiment Station.*[8] That methodology can be summarized as follows:[9]

1. Plots must be taken to measure the productivity of each different soil type and aspect on the property.

2. Selection of site-trees (trees selected to determine site index) is a critical part of accurately determining the productivity of the land. Site-trees must have remained in a dominant or co-dominant position throughout their life. If insufficient dominant trees exist on the property to determine the site index, site-trees may be selected from adjacent properties with the same aspect, elevation, and soil type.

3. Use the appropriate table to determine site index. For example, King's Douglas-fir table is used for Douglas-fir and grand fir; Barnes western hemlock table is used for western hemlock and Sitka spruce; Meyer's ponderosa pine table is used for ponderosa pine and Jeffrey pine.

It is the applicant's burden to establish that the subject parcel is not forest land protected by Goal 4. The applicant's consulting forester has not provided any productivity data for any of the soils on the subject property that is equivalent to NRCS data, expressed as a site index or cf/ac/yr. The applicant has not established that the consulting forester's methodology or data has been accepted by ODF. In the absence of data based on accepted methodology establishing that the soils on the subject area are not capable of supporting commercial timber production, the applicant's burden is not met.

b. Productivity for species other than Douglas-fir must be considered

[7] Transmittal from Office of State Forester to DLCD, January 27, 1989. See Exhibit 2.
[8] "Land Use Planning Notes," Number 3, April 1, 1998, p. 4.
[9] A more extensive summary is found in "Land Use Planning Notes," Number 3, April 1, 1998, p. 4. See Exhibit 3.

The definition of "forest lands" includes "lands which are suitable for commercial forest uses." "Commercial forest uses" is not directly defined in Goal 4 or in OAR Chapter 660 Division 6. However, OAR 660-006-0005(6) provides:

> "'Forest Operation' means any commercial activity relating to the growing or harvesting of any forest tree species as defined in ORS 527.620(6)."

The ORS 527.620(6) definition of "forest tree species" provides, in relevant part:

> "Forest tree species" means "any tree species capable of producing logs, fiber or other wood materials suitable for the production of lumber, sheeting, pulp, firewood or other commercial forest products[.]"

The Court of Appeals has held that the county's consideration cannot be limited to Douglas-fir simply because NRCS has made not other data available:

> "OAR 660-06-005(2) expressly allows alternative methods of determining soil productivity capacities to be used when NRCS data are not available. As petitioners read the rule, however, it would limit the county's consideration to data relating to Douglas fir simply because NCRS has made no other data available. That understanding is contrary to what the rule plainly says." *Carlson v. Benton County,* 154 Or App 62, 68, 961 P2d 248 (1998).

An evaluation of a property's capacity for forest production therefore must consider productivity for *all* merchantable forest tree species, including nonnative tree species, not just Douglas-fir. When a reasonable issue is raised that the subject soils might produce nonnative tree species at a rate that exceeds the relevant standards, those nonnative species must also be considered. *See Carlson v. Benton County,* __ Or LUBA __ (LUBA No. 99-132, 4/14/2000, slip of 18). Merchantable hardwoods include black cottonwood, Oregon ash, Oregon white oak, red alder, bigleaf maple and hybrid poplar. Merchantable conifers include ponderosa pine, grand fir, western red cedar, western hemlock, and KMX.

KMX is being grown successfully on dry sites in Oregon.[10] OSU researchers have published findings on the productive potential of KMX:

> "Producers may use fast growing trees such as KMX pine to speed up the crop cycle of forests and agroforests. The KMX hybrid pine is a cross between knobcone (Pinus attenuata) and monterey (Pinus radiata) pines. Local experience with KMX is that it

[10] The Woodland Workbook, R. E. Duddles and C. G. Landgren, Oregon State University Extension Service, EC 1196, November 1999.

grows over twice as fast as Douglas-fir or ponderosa pine on the same sites. This makes possible a 20-25 year timber rotation with KMX."[11]

In determining the potential productivity of the subject parcel for timber, productivity for KMX must be considered. Productivity for KMX could be as much as twice the productivity for Douglas-fir, which the NRCS has established as 182 cf/ac/yr.

The subject parcel therefore is forest land protected by Goal 4.

c. Lane County standards do not govern Comprehensive Plan amendments

It has been argued that a 50 cf/ac/yr standard for "lands suitable for commercial forest uses" applies in Lane County. This argument relies upon Board Order 84-9-12-3, which adopted a 50 cf/ac/yr standard; and on past board decisions that have applied this standard.

No evidence has been presented that Board Order 84-9-12-3 was submitted to DLCD for acknowledgment and has been acknowledged to comply with statewide planning Goal 4 by the Land Conservation and Development Commission. A history of local decision making does not and cannot justify making a decision that is not in compliance with the statewide planning goals.

Even if Board Order 84-9-12-3 had been acknowledged, that would be insufficient to establish goal compliance in the context of a plan amendment. This application requires that the comprehensive plan map designation for the subject property be changed from "Forest Land" to "Nonresource." ORS 197.175(2)(a) requires that comprehensive plan amendments and revisions comply with the statewide planning goals. Application of criteria included in an acknowledged comprehensive plan governing redesignation of resource lands does not obviate the requirement that comprehensive plan amendments comply with the statewide planning goals. *1000 Friends of Oregon v. Jackson County*, 79 Or App 93, 99, 718 P2d 753 (1986), *rev den* 301 Or 445 (1987); *DLCD v. Curry County,* 33 Or LUBA 728, 735 (1997).

Local governments do not have the authority to set a productivity threshold, or to define "lands suitable for commercial forest uses" for purposes of Goal 4 or OAR Chapter 660 Division 6. A county may not interpret its ordinances in a manner that is inconsistent with, or provides a lesser level of resource protection than, the law it implements, nor may a county, through its own definitions, eliminate a goal requirement. *DLCD v. Coos County,* 32 Or LUBA 430, 435-36 (1997).

If any such productivity threshold or definition is to be found, it must be sought within the context of relevant statutes or administrative rules, particularly those addressing forestry and forestry policy.

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[11] Fletcher and Sharrow, *"Trees and Pastures: 40 Years of Agrosilvopastoral Experience in Western Oregon,* Agroforestry and Sustainable Systems: Symposium Proceedings, August 1994

d. ODF provides guidance for defining "lands suitable for commercial forest uses."

The definition of "forest lands" includes "lands which are suitable for commercial forest uses." "Commercial forest uses" is not directly defined in Goal 4 or in OAR Chapter 660 Division 6. However, OAR 660-006-0005(6) provides:

> "'Forest Operation' means any commercial activity relating to the growing or harvesting of any forest tree species as defined in ORS 527.620(6)."

The ORS 527.620(6) definition of "forest tree species" provides, in relevant part:

> "Forest tree species" means "any tree species capable of producing logs, fiber or other wood materials suitable for the production of lumber, sheeting, pulp, firewood or other commercial forest products[.]"

Thus "commercial forest uses" includes the growing or harvesting of forest tree species suitable for the production of commercial forest products.

Neither Goal 4 nor OAR Chapter 660 Division 6 establish a productivity threshold for "lands suitable for commercial forest uses."

The legislature has granted the State Board of Forestry and the Oregon Department of Forestry (ODF) wide authority in matters of forest policy. ODF performs a number of duties under its overall mission to "provide stewardship for Oregon's forests."

ORS 526.016(1) provides, in relevant part:

> "The State Board of Forestry shall supervise all matters of forest policy and management under the jurisdiction of this state[.]"

ORS 526.008 provides, in relevant part:

> "The State Forestry Department consists of the State Forester and the deputy, assistants and employees of the forester, acting under direction of the State Board of Forestry."

In recognition of the legislative directives, ODF policies should be considered with respect and deference by other state agencies.

OAR 629-022-0040 defines forest land and establishes a 20 cf/ac/yr productivity threshold for "forestland":

> "(6) 'Forestland' means land zoned in a county comprehensive plan for forest or farm use that is capable of producing commercial hardwood or softwood timber, regardless of the vegetation currently on the land.

"(22) 'Underproducing forestland' means any forestland that is capable of producing at least 20 cubic feet of wood fiber per acre per year at culmination of mean annual increment, but does not currently support the minimum number of free to grow trees required in the reforestation rules under the Forest Practices Act."

OAR 629 Division 600 provides definitions for OAR Chapter 629. OAR 629-600-0100(12) defines "commercial" and provides, in relevant part:

"'Commercial' means of or pertaining to the exchange or buying and selling of commodities or services. This includes any activity undertaken with the intent of generating income or profit[.]"

OAR Chapter 629 Division 610 is titled "Forest Practices Reforestation Rules." OAR 629-610-0000 states the purpose of the reforestation rules:

(4) The reforestation rules are designed to:

(a) Define forestland subject to reforestation requirements[.]"

OAR 629-610-0010 identifies forestlands suitable for reforestation, and states that forestlands capable of producing 20 cf/ac/yr are subject to the Forest Practices Act:

"(1) Any forestland which is capable of annual wood production of at least 20 cubic feet per acre at culmination of mean annual increment (Cubic Foot Site Class VI or better) shall be subject to the requirements of the reforestation rules."

OAR 629-610-0050, which addresses species acceptable for reforestation, provides further guidance on what constitutes a "commercial" forest tree species and provides, in relevant part:

"(b) The species must be capable of producing logs, fiber, or other wood products suitable in size and quality for the production of lumber, sheeting, pulp or other commercial forest products; and

"c) The species must be marketable in the foreseeable future."

A forest product is marketable or merchantable if it is salable, regardless of whether sold for profit or loss. *Ellingson Lumber Co. v. Eepartment of Revenue,* 8 OTR 273 (1980). "Commercial" does not equal "profitable." *DLCD v. Coos County,* 32 Or LUBA 430, 438 (1997).

OAR 629-023-0440 establishes a 20 cf/ac/yr productivity threshold for land to qualify for a reforestation credit:

"To qualify for a credit, the State Forester must determine that the forestland, prior harvest, and project comply with the following standards and specifications:

"(1) Forestland must be capable of producing at least 20 cubic feet of wood fiber per acre at culmination of mean annual increment. Site productivity can be determined

directly by tree growth and stocking measurements within the operation area, or determined indirectly using applicable USDA Natural Resources Conservation Service soil survey information, USDA Forest Service plant association guides, Oregon Department of Revenue western Oregon site class maps, or other sources."

The Department of Forestry has publicly taken the position that lands capable of producing 20 cf/ac/yr or more are commercial forest lands:

"The Oregon Department of Forestry believes that the land between 20 and 50 cf/ac/yr is suitable for commercial uses and requires landowners to reforest when they harvest timber on these lands. The USFS, BLM, and the Oregon Forest Practices Act all use the 20 cf/ac/yr standard as the commercial threshold. This threshold has been set for a good reason. Biologically, 20 cf/ac/yr is the point where stands change from being dominated by low value, non-commercial species like hardwoods or juniper to being capable of producing stands of commercially valuable species like pine.

"Above 20 cf/ac/yr, productivity is not a good indicator of whether the stand will be stocked with commercial species, and therefore producing timber. As shown in the graph below, on non-industrial private forestlands where most of the development occurs, there is no statistical relationship between site productivity and whether there is a manageable stand of timber on the land.

"Removing private land between 20 and 50 cf/ac/yr from the commercial forest land base would set a precedent with significant statewide consequences. . . . [S]tatewide, there are more than 1.5 million acres that would be removed from the land base under the proposed definition."[12]

In a letter dated December 24, 2001 to Nancy Kincaid, Department of Land Conservation and Development, Kevin Birch, Planning Coordinator for the Oregon Department of Forestry stated:

"This is far above the 20 cubic feet per acre per year level that is considered to be the commercial/non-commercial dividing line by the Department of Forestry. Twenty cubic feet per acre per year is the biological dividing line where sites can become fully occupied with stands of commercial pine species. Therefore, the Forest Practices Act requires sites to be reforested after harvest if the soil is capable of producing 20 cf/ac/yr. The federal agencies (USFS and BLM) also consider sites greater than 20 cf/ac/yr to be commercial timber growing sites, and the USDA considers sites better than 80 cf/ac/yr to be 'prime' timberland. The forest industry also manages lands that are in the lower productivity classes."[13]

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[12] Letter from Kevin R. Birch, Planning Coordinator, Oregon Department of Forestry, to Raul Warmer, Jackson County Planning Department, June 18, 2003. See Exhibit 4.

[13] Letter from Kevin R. Birch, Planning Coordinator, Oregon Department of Forestry, to Nancy Kincaid, Department of Land Conservation and Development, dated December 24, 2001. Electronic copy provided to this author, along with permission to use letter. See Exhibit 5.

Thus lands capable of producing 20 cf/ac/yr of commercial hardwood or softwood timber are considered forestlands by the Department of Forestry. Such lands should be considered "suitable for commercial forest uses" for purposes of Goal 4, and are therefore "forest lands" protected by Goal 4.

Available data establishes conclusively that the subject parcel is capable of producing in excess of 20 cf/ac/yr of commercial timber species, and therefore constitutes forest lands protected by Goal 4.

2. The subject property is "other forested lands that maintain soil, air, water and fish and wildlife resources."

The subject parcel contains an extent of hazelnut trees and at least three mature Douglas-fir trees. The subject parcel is located in an Impacted Big Game Range. A meander channel of the McKenzie River traverses the southeast corner of the subject property.

While the amount of forested area is relevant to determining whether a parcel is "other forested land," the percentage of forested area is only part of the equation. In this case, the subject property contains Goal 4 resources. There are soil, air, water, and fish and wildlife resources on the subject property. Given these Goal 4 resources, the subject property is "other forested land" regardless of whether the majority of the subject property is forested *Brown v. Coos County,* __ Or LUBA __ (LUBA No. 95-050, May 1996, slip op 8-9).

Typical vegetation in uncultivated areas in the Sifton soil unit which comprises 80% of the subject property is described in the Soil Survey as "mainly conifers, hardwoods, shrubs, and grasses." The Soil Survey also states that this unit is used for wildlife habitat.[14]

Oregon's *First Approximation Report*[15] was prepared by the Department of Forestry to explore how our forests could be managed to provide a full array of goods, values and services; and to put forth a philosophy of sustainable forestry that will allow us to meet our current needs for forest related economic, environmental and social demands without compromising the abilities of future generations to meet their needs.[16] The *First Approximation Report* establishes seven criteria for measuring forest sustainability.

The *First Approximation Report* Criterion 1 establishes the goal of conserving biological diversity to ensure the long-term survival of all plant and animal species and the genetic variability within those species. The plant and animal species that live in forests generally require a contiguous forest of some minimum size over a large part of their natural range.

[14] *Soil Survey of Linn County Area, Oregon*, p. 138.
[15] *First Approximation Report for Sustainable Forest Management in Oregon,* Oregon Department of Forestry, June 2000,
[16] *First Approximation Report*, pp. II-III.

Excessive fragmentation can contribute to the loss of plant and animal species that are unable to recolonize forests after an area is disturbed.[17]

The First Approximation Report identifies elk, common garter snake, southern alligator lizard, western rattlesnake, and yellow-breasted chat as species dependent upon the mixed deciduous/mixed conifer habitat type typically found on the soil units which comprise the subject parcel, and pileated woodpecker and spotted bat as species found in the areas suited to Douglas-fir. Western rattlesnake and pileated woodpecker are state listed "sensitive vulnerable" species, and yellow-breasted chat is state listed as a "sensitive critical" species.[18]

It is the applicant's burden to establish that the subject area is not "other forested lands that maintain . . . wildlife resources." The applicant has not addressed this requirement other than to state that "[t]here are no county inventories or specific site evidence that indicates the property is necessary to be preserved for wildlife to meet the requirements for food, water, shelter, reproduction, wildlife migration corridors, big game range, nesting or roosting sites." Proposed General Finding 9 reiterates the applicant's statement.

The applicant's statement is not responsive to the question posed by Goal 4: is the subject area "forested lands that maintain soil, air, water and fish and wildlife resources." The fact that the subject parcel is not specifically identification in the Rural Comprehensive Plan as containing Goal 5 resources and the *lack* of specific site evidence is not sufficient to meet the applicant's affirmative burden to establish through substantial evidence in the record that the subject does not maintain wildlife resources, particularly when the subject property *is* identified as within a Big Game Range.

The *First Approximation Report* contains a list of Oregon listed species, several of which utilize the type of habitat found on the subject area.[19] It is the burden of the applicant to show that the subject area does not "maintain . . . wildlife resources," including but not limited to listed plants and animals and their supporting ecosystems and habitat.

Goal 4 protects more than "special" habitat. Development in forested areas results in habitat fragmentation and loss of ecosystem components, and fails to maintain wildlife resources. The subject parcel is therefore forest lands protected by Goal 4.

One of the major changes in the atmosphere is the concentration of carbon dioxide. During the process of photosynthesis, woody plants absorb carbon dioxide, store the carbon in wood, and release oxygen, thereby mitigating the increase of carbon dioxide in the atmosphere. Because of their large, low-cost, carbon storage potential, forests provide one of the few opportunities to absorb (sequester) carbon. Carbon flux (the absorption and release of carbon) results from changes in live and dead biomass, either standing or recently harvested. Management of forests is a factor in the amount of carbon entering the world's atmosphere.

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[17] *First Approximation Report*, pp. 25.
[18] *First Approximation Report*, pp. 28-29, Appendix B-3.
[19] *First Approximation Report*, Appendix B-1.

"Maintain the global carbon cycle" is *First Approximation Report* Criterion 5.[20] The forested subject parcel helps maintain air resources.

The applicant states that Goal 5 requires consideration only of resources inventoried in the acknowledged comprehensive plan, that the absence of inventoried Goal 5 resources on the subject property establishes that the subject lands are not "other forested lands that maintain soil, air, water and fish and wildlife resources," and that the subject property is thus not "forest lands" protected by Goal 4. The applicant's statement suggests that, in the absence of inventoried Goal 5 resources on the subject land, it is an opponent's burden to establish otherwise.

Goal 5 natural resources do not duplicate the enumerated Goal 4 natural resources, nor does analysis of Goal 5 resources in any way duplicate the required Goal 4 analysis of whether designation of the subject property for forest use maintains soil, air, water and fish and wildlife resources. The county must make appropriate findings based on substantial evidence in the record, not on an absence of evidence on a point on which the applicant bears the burden of proof. *DLCD v. Curry County,* 33 Or LUBA 728, 742-43 (1997).

The Oregon Board of Forestry has established a framework within which "other forested lands that maintain soil, air, water and fish and wildlife resources" should be considered. The *2003 Forestry Program for Oregon* is the Board of Forestry's framework for strategic planning, designed to help Oregonians achieve the "triple bottom line" of sustainable environmental, economic, and social performance.[21]

In response to a statutory directive of the Legislative Assembly establishing goals regarding sustainability for the State of Oregon, the Oregon Board of Forestry has adopted the following definition of "sustainable forest management":

> "'Sustainable forest management' means forest resources across the landscape are used, developed, and protected at a rate and in a manner that enables people to meet their current environmental, economic, and social needs, and also provides that future generations can meet their own needs [based on ORS 184.421].
>
> "On a statewide basis, sustainable forest management will provide:
>
> "• Healthy and diverse forest ecosystems that produce abundant timber and other forest products;
>
> "• Habitat to support healthy populations of native plants and animals;
>
> "• Productive soil, clean water, clean air, open space, and recreational opportunities; and
>
> "• Healthy communities that contribute to a healthy state economy."[22]

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[20] *First Approximation Report,* pp. 121-23.
[21] *2003Forestry Program for Oregon,* Oregon Board of Forestry, p. 10.
[22] *2003Forestry Program for Oregon,* p. 1.

The Board of Forestry has chosen an internationally recognized framework containing seven criteria for sustainability as the basis for strategies for the *2003 Forestry Program for Oregon.* Those criteria, or strategies, are:

A. Legal/institutional/economic: Promote a sound legal system, effective and adequately funded government, leading-edge research, and sound economic policies.

B. Social and economic benefits: Ensure that Oregon's forests provide diverse social and economic outputs and benefits valued by the public in a fair, balanced, and efficient manner.

C. Productive capacity: Maintain and enhance the productive capacity of Oregon's forests to improve the economic well-being of Oregon's communities.

D. Soil and water: Protect, maintain, and enhance the soil and water resources of Oregon's forests.

E. Diverse plant and animal population and habitats: Contribute to the conservation of diverse native plant and animal populations and their habitats in Oregon's forests.

F. Ecosystem health: Protect, maintain, and enhance the health of Oregon's forest ecosystems, watersheds, and airsheds within a context of natural disturbance and active management.

F. Carbon storage: Enhance carbon storage in Oregon's forests and forest products.[23]

The Board of Forestry has stated:

> "We believe Oregon's forests are important to the global environment, economy, and society, and that forest managers, government agencies, interest groups, and all other Oregonians should consider the impact of their decisions at local, state, national, and international levels."[24]

The Board of Forestry has identified Strategy C, Action C.1 as a "key action":

> "The board will promote retention and improvement of the forestland base and long-term forest investments by landowners through Oregon's land-use and tax programs, market development, and appropriate incentives."

Thus the Board of Forestry recognizes that retaining and improving the forestland base is important to the local and the global environment, and that local land use decisions should consider impacts on soil and water resources; plant and animal populations and habitats; ecosystem, watershed and airshed health; and carbon storage, which impacts CO^2 levels in the atmosphere and Goal 4 air resources.

[23] *2003Forestry Program for Oregon,* p. 7-8, 12.
[24] *2003Forestry Program for Oregon,* p. 12.

The applicant and his representatives have failed to provide any evidence regarding soil, air, water and fish and wildlife resources, or to undertake the analysis required by Goal 4. It is the applicant's burden to do so.

3. Compliance with Goal 4 cannot be established.

Because the legal boundaries of the subject property have not been correctly identified, it cannot be determined from evidence in the record whether the subject property is forest land protected by Goal 4.

III. THE 1998 LOT-LINE ADJUSTMENT WAS NOT A LAWFUL PROPERTY LINE ADJUSTMENT BECAUSE IT DOES NOT COMPLY WITH THE REQUIREMENTS OF ORS CHAPTER 92.

The asserted configuration of the subject property results from the recording of a lot line adjustment deed on December 28, 1998. The procedure used to execute the lot line adjustment did not and does not comply with the requirements of ORS 92.190(3). Consequently, any property line adjustment was and is subject to the replatting procedures in ORS 92.180 and 92.185.

Because the lot line adjustment did not comply with statutory requirements governing property line adjustments or replats, it is of no effect. It cannot be approved or made final as a result of this application. The configuration of the subject property remains as it was prior to December 28, 1998.

ORS 92.190 provides, in relevant part:

> "(3) The governing body of a city or county may use procedures other than replatting procedures in ORS 92.180 and 92.185 to adjust property lines as described in ORS 92.010 (11), as long as those procedures include the recording, with the county clerk, of conveyances conforming to the *approved* property line adjustment as surveyed in accordance with ORS 92.060 (7)." (Emphasis added.)

The "Lot-Line Adjustment Deed" recorded December 28, 1998 was not the recording of conveyances conforming to an *approved* property line adjustment. Consequently, the applicable procedures for adjusting the property line are the replatting procedures in ORS 92.180 and 92.185. ORS 92.180 requires that an agency or body be established to approve subdivision or partition plats. ORS 92.185 requires that notice of a replat be provided to adjacent property owners.

A local government's property line adjustment procedures must include an approval process, which necessarily includes a review and decision-making process. LUBA has explained that a lot-line adjustment is a land use decision requiring a land-use decision-making process, including notice to nearby property owners. *Warf v. Coos County,* 42 Or LUBA 84 (2002); *Hammer v. Clackamas County,* __ Or App __ (A122139, November 13, 2003).

ORS 92.010 defines "Partition plat" and "Plat":

(8) "Partition plat" includes a final map and other writing containing all the descriptions, locations, specifications, provisions and information concerning a partition.

(9) "Plat" includes a final subdivision plat, replat or partition plat.

Lane County has no procedures for property line adjustments. Therefore Lane County is currently required to use the replatting procedures of ORS 92.180 and ORS 92.185 to accomplish and approve property line adjustments.

Lane County has adopted provisions governing partition plats and replats. LC Chapter 13 governs land divisions, with the purpose of providing "conformity with the comprehensive plan regarding patterns for the development and improvement of Lane County." LC 13.050 establishes requirements to which a replat must conform, including conformity with the comprehensive plan (Plan). Property line adjustments thus must consider conformity with applicable Plan policies.

LC 13.100 requires that an application be filed for a preliminary partition plan. LC 13.120 provides that a decision on the preliminary plan is subject to Director approval pursuant to LC 14.100. LC 14.100(4) requires that notice of decision be mailed to the applicant, to all parties, to all neighborhood or community organizations, and to adjacent property owners. LC 13.300 requires an application for final approval. LC 13.310 establishes criteria for final approval. LC 13.310(3) provides:

> "Final partition plans . . . shall be considered finally approved by the Director when the Director's signature and dates thereof have been written on the face of the maps and plats and when the maps or plats have been recorded."

The reconfiguration of the subject parcel was not done in a manner consistent with ORS 92.180 and 92.185 or with LC Chapter 13. The required notice was not provided. The recorded "Lot-Line Adjustment Deed" does not bear the dated signature of the Director. Applicable comprehensive plan policies have not been identified or addressed.

The property line adjustment is not consistent with the purposes of the Exclusive Farm Use zone, as stated by LC 16.212(1):

> "(a) To preserve open land for agricultural use as an efficient means of conserving natural resources that constitute an important physical, social, aesthetic and economic asset to the people of Lane County and the state of Oregon, whether living in rural, urban, or metropolitan areas;
>
> "(b) To preserve the maximum amount of the limited supply of agricultural land in large blocks in order to conserve Lane County's economic resources and to maintain the agricultural economy of Lane County and the state of Oregon for the assurance of adequate, healthful and nutritious food for the people of Lane County, the state of Oregon, and the nation;

"(c) To substantially limit the expansion of urban development into rural areas because of the unnecessary increases in costs of community services, conflicts between farm and urban activities and the loss of open space and natural beauty around urban centers occurring as the result of such expansion;

"(d) To provide incentives for owners of rural lands to hold such lands in the exclusive farm use zone because of the substantial limits placed on the use of these lands and the importance of these lands to the public; and

(e) To identify and protect high value farm land in compliance with OAR 660 Division 33."

The property line adjustment does not comply with LC 16.212(9), which governs the minimum area requirements for the Exclusive Farm Use district and requires compliance with Agricultural Lands Policy #10 of the Lane County Rural Comprehensive Plan:

"Such minimum lot sizes or land division criteria as are used in exclusive farm use zones shall be appropriate for the continuation of the existing commercial agricultural enterprise in the region. The commercial agricultural, minimum field or parcel sizes and corresponding farming regions identified in Addendum to Working Paper: Agricultural Lands shall be used to determine the appropriate division requirements for lands zoned Exclusive Farm Use (E)."

Because the applicant now agues that farm use of the subject parcel is "impracticable," and seeks to redesignate the subject parcel for residential development, it cannot be found that the lot line adjustment complies with the purpose of the EFU district or is consistent with Agricultural Lands Policy #10.

IV. APPROVAL OF THE REQUESTED RR-5 ZONE WOULD NOT COMPLY WITH GOAL 14.

The subject property is located along the McKenzie Highway south of the community of Walterville, approximately four miles east of the City of Springfield. Zoning of the surrounding area includes areas zoned RR-2.

Lot sizes of one acre or less are clearly urban, and lot sizes greater than 10 acres are clearly rural. Whether densities between those extremes are urban or rural depends on the types of services to be provided and the proximity of the proposed development to urban growth boundaries. *1000 Friends of Oregon v. LCDC (Curry County),* 301 Or at 506-507.

The test for whether a use is urban is whether the use is "appropriate for, but limited to, the needs and requirements of the rural area to be served, or whether it is likely to become a "magnet" attracting people from outside the area. *Curry County,* 301 Or at 507; *Cox v. Yamhill County*, 29 Or LUBA 263, 267 (1995).

The applicant has not established that the residential density which would be allowed by the proposed RR-5 zoning is appropriate for and limited to the needs and requirements of the

surrounding rural area. Proximity to Springfield would suggest that any development is likely to become a "magnet" attracting people from the Springfield area.

V. THE REQUEST DOES NOT COMPLY WITH LANE CODE PLAN AMENDMENT CRITERIA.

LC 16.400(6)(h) provides, in relevant part:

> "(bb) For Major and Minor Amendments as defined in LC 16.400(8)(a) below, the Plan amendment or component is:
> "(i-i) necessary to correct an identified error in the Plan; OR
> "(ii-ii) necessary to fulfill an identified public or community need for the intended result of the component or amendment; OR
> "* * *
> "(iv-iv) necessary to provide for the implementation of adopted Plan policy elements; OR
> "(v-v) otherwise deemed by the Board, for reasons briefly set forth in its decision, to be desirable, appropriate or proper."

No "error" was made or currently exists that requires correction. The applicant does not assert that the amendment is necessary to fulfill an identified community need. The amendment is not necessary to implement Plan policy elements. The proposed Plan amendment conflicts with and is not compatible with unamended portions or elements of the Plan. There are no other reasons why the amendment can be deemed desirable, appropriate or proper. The proposed Plan Map amendment thus does not comply with LC 16.400(h)(bb).

1. No "error" was made or currently exists and no "correction" is necessary.

In 1976 the subject parcel was part of an undivided part of a 107 acre tract. It was designated Exclusive Farm Use with the adoption of the Lane County Rural Comprehensive Plan, as were other surrounding lands. The subject parcel was under single ownership and, as the applicant's information states, the parent tract and the subject parcel have historically been farmed. Zoning the parent parcel E-30 was not "error."

No "error" is made in continuing the Plan designation. It is admitted that farm uses have historically taken place on the subject property.

All the soils on the subject property are identified as agricultural soils by the NRCS. The Sifton soil unit, which comprises 80% of the subject property, is specified to be "High Value Farmland" by OAR 660-033-0020(8)(c)(A). The Cloquato soil unit, comprising 8% of the subject parcel, is a Class II soil specified to be "High Value Farmland" under OAR 660-033-0020(8)(a)(A) or (B). Thus 88% of the subject parcel is High Value Farmland and thus agricultural land as a matter of law. There can be no error in retaining the Exclusive Farm Use designation; removing that designation would be error.

2. Amending the Plan Map is not "necessary to provide for the implementation of adopted Plan policy elements" and would not comply with policies of the Comprehensive Plan, Goal 3: Agricultural Lands.

Lane County Comprehensive Plan (LCCP) policies for agricultural lands are found in Part Two, Goal Three: Agricultural Lands.

Agricultural Lands policies relevant to this application include:

"1. Encourage agricultural activities by preserving and maintaining agricultural lands through the use of an exclusive agricultural zone which is consistent with ORS 215.

The purpose of the agricultural zone is to encourage agricultural activities. That purpose would not be furthered by approving a Plan Map amendment for the explicit purpose of allowing non-farm uses.

"3. Reserve the use of the best agricultural soils exclusively for agricultural purposes.

88% of the subject parcel is comprised of High Value Farmland. Amending the Plan Map to allow for uses other than agriculture fails to reserve Lane County's best agricultural soils exclusively for agriculture.

"5. Use planning and implementation techniques that reflect appropriate uses and treatment for each type of land."

Amending the Plan Map for the admitted purpose of allowing nonfarm uses fails to use planning and implementation techniques to preserve the subject property for appropriate farm and forest uses.

"8. Provide maximum protection to agricultural activities by minimizing activities, particularly residential, that conflict with such use. Whenever possible planning goals, policies and regulations should be interpreted in favor of agricultural activities."

Amending the Plan Map to allow for nonfarm uses would fail to provide maximum protection to agricultural activities and would fail to minimize conflicting activities. The proposed residential uses are a conflicting activity. Lane County goals, policies and regulations must be interpreted in favor of maintaining the subject property in its current zoning so as to allow for continuation of the historical agricultural activities rather than to allow for the conversion of the subject property to a non-farm use.

3. Amending the Plan Map is not "otherwise . . . desirable, appropriate or proper."

The applicant has suggested that LC 16.400(6)(h)(bb)(v-v) should be "otherwise deemed . . . to be desirable, appropriate or proper" because "development is appropriately directed to areas

like this site, which are severely limited or precluded from any substantial resource use. This action relieves the strain of similar development on other county lands that are more suitable for farm and forest resource uses."

As previously discussed, the subject property is High Value Farmland as a matter of law, and has historically been put to farm use. If the subject property can be converted to nonresource uses, any potential applicant is likely to conclude that any similar application is likely to succeed. Thus approval of the application will increase the strain of nonresource development on resource lands in Lane County.

Any other reasons that might be cited to justify the proposed Plan Map amendment must be based on the goals, policies and provisions of the LCCP.

LCCP Goal Two: Land Use Planning Policy 1 provides, in relevant part:

> "The purpose of the revised Lane County Comprehensive Plan shall be to provide information to assist public and private decision-making, and to meet the requirement of Oregon State Planning Goals and associated laws."

LCCP Goal Two: Land Use Planning Policy 2 provides, in relevant part:

> "The Policies shall provide the direction for County growth and development and programs for dealing with planning issues[.]"

Therefore the LCCP itself must serve as the guide for decision-making in this case. This is in accord with Statewide Planning Goal 2: Land Use Planning, which is:

> "To establish a land use planning process and policy framework as a basis for all decisions and actions related to use of land and to assure an adequate factual base for such decisions and actions."

Goal 2 requires, in relevant part:

> "The plans shall be the basis for specific implementation measures. These measures shall be consistent with and adequate to carry out the plans."

Goal 2 Guidelines are implemented by the LCCP. The acknowledgement process required that the LCCP use the guidelines or alternative measures to achieve the goals. The Goal 2 Guideline addressing minor changes to plans and implementation measures states:

> "The public need and justification for the particular change should be established."

Goal 2 thus requires that any change in the Plan Map be based on *public* need, not on the private needs or desires of an applicant. Therefore, LCCP policies relevant to the proposed Plan Map amendment must be interpreted and applied in the context of "public need," not any private need of the applicant.

VI. CRITERIA FOR REZONING ARE NOT MET.

LC 16.252 provides, in relevant part:

> "(2) Criteria. Zonings [and] rezonings . . . shall be enacted to achieve the general purpose of this chapter and shall not be contrary to the public interest. In addition, zonings and rezonings shall be consistent with the specific purposes of the zone classification proposed [and] applicable Comprehensive Plan elements and components."

As discussed above in relation to the proposed Plan Map amendment, the proposed zone change is not consistent with applicable LCCP policies concerning farm lands because the intent of the proposal is to convert the subject property from resource uses to a conflicting nonresource use.

The LCCP policies identified above establish that it is in the public interest to encourage agricultural activities and to maintain the farm land base. Rezoning the subject property for the admitted purpose of converting the subject property to a conflicting nonresource use is thus contrary to the public interest.

LC 16.212(1) states the purpose of the Exclusive Farm Use Zone, and provides:

> "Purpose. The purposes of the Exclusive Farm Use (E-RCP) Zone are:
> "(a) To preserve open land for agricultural use as an efficient means of conserving natural resources that constitute an important physical, social, aesthetic and economic asset to the people of Lane County and the State of Oregon, whether living in rural, urban, or metropolitan areas;
> "(b) To preserve the maximum amount of the limited supply of agricultural land in large blocks in order to conserve Lane County's economic resources and to maintain the agricultural economy of Lane County and the state of Oregon for the assurance of adequate, healthful and nutritious food for the people of Lane County, the state of Oregon, and the nation;
> "(c) To substantially limit the expansion of urban development into rural areas because of the unnecessary increases in costs of community services, conflicts between farm and urban activities and the loss of open space and natural beauty around urban centers occurring as the result of such expansion;
> (d) To provide incentives for owners of rural lands to hold such lands in the exclusive farm use zone because of the substantial limits placed on the use of these lands and the importance of these lands to the public; and
> "(e) To identify and protect high value farm land in compliance with OAR 660 Division 33."

The proposed zone change is not consistent with any of the identified purposes of the E-RCP zone. It would not preserve open land for agricultural use, but would allow the subject parcel to be converted to a non-agricultural use. It would fail to preserve to maximum amount of the limited supply of agricultural land to conserve Lane County's economic resources, and to

maintain the agricultural economy. It would enable the extension into a rural area of a use more suited to urban areas, increase costs of community services, increase conflicts with surrounding farm uses, and result in loss of open space and natural beauty. It would reward property owners for converting land from agricultural use to other uses. It would fail to protect identified high-value farm land.

CONCLUSION

The subject parcel is, as a matter of law, agricultural land protected by Goal 3. The subject property is also forest land protected by Goal 4. Because the lawful boundaries of the subject parcel have not been identified, compliance with Goal 3 or Goal 4 cannot be determined. Redesignation to "nonresource" therefore cannot be approved.

The 1998 lot-line adjustment executed by the recording of a deed was not a lawful property line adjustment and does not comply with the requirements of ORS chapter 92. Because the lot line adjustment did not comply with statutory requirements governing property line adjustments or replats, it is of no effect. The configuration of the subject property remains as it was prior to December 28, 1998.

Approval of the requested RR-5 zone would not comply with Goal 14.

The request does not comply with Lane Code plan amendment criteria, nor does it comply with criteria for rezoning.

FOR THESE REASONS, this application must be denied.

Respectfully submitted,

Jim Just
Executive Director

EXHIBIT 1-1

Table B. - Land Capability and Yields per Acre of Crops and Pasture - Continued

Lane County Area, Oregon

Map Symbol and Soil Name	Land Capability		Pasture		Snap Beans		Sweet Corn	
	N	I	N	I	N	I	N	I
			AUM	AUM	Bu	Bu	Tons	Tons
121C: Salkum	3e	—	9.00	—	—	—	—	—
122: Saturn	3s	3s	9.00	15.00	—	270.00	—	6.00
123: Sifton	3s	3s	5.00	12.00	—	—	—	—
124D: Stickrock	6e	—	—	—	—	—	—	—
124F: Stickrock	6e	—	—	—	—	—	—	—
125C: Stelwer	3e	3e	6.00	15.00	—	—	—	—
125D: Stelwer	4e	6e	5.00	12.00	—	—	—	—
125F: Stelwer	6e	—	5.00	—	—	—	—	—
126F: Tahkenitch	6e	—	—	—	—	—	—	—
126G: Tahkenitch	7e	—	—	—	—	—	—	—
127C: Urban Land	8s	—	—	—	—	—	—	—
Hazelair	4e	—	7.00	15.00	—	—	—	—
Dixonville	3e	—	6.00	—	—	—	—	6.00
128B: Veneta	2e	—	10.00	—	—	—	—	—
129B: Veneta Variant	2e	2e	10.00	14.00	—	—	—	—
130: Waldo	3w	3w	8.00	15.00	—	—	—	—
131C: Waldport	6e	—	—	—	—	—	—	—
131E: Waldport	7e	—	—	—	—	—	—	—

EXHIBIT 1-2

Table E1. - Forest Productivity - Continued

Lane County Area, Oregon

Map Symbol and Soil Name	Potential Productivity			Trees to Manage
	Common Trees	Site Index	Volume of Wood Fiber	
			Cu Ft/Acre	
123:				
Sifton	Douglas Fir	124	182	Douglas Fir
	Oregon White Oak	—	—	
124D:				
Slickrock	Douglas Fir	137	209	Douglas Fir
	Western Hemlock	—	—	Western Hemlock
	Western Redcedar	—	—	
124F:				
Slickrock	Douglas Fir	137	209	Douglas Fir
	Western Hemlock	—	—	Western Hemlock
	Western Redcedar	—	—	
125C:				
Stelwer	—	—	—	—
125D:				
Stelwer	—	—	—	—
125F:				
Stelwer	—	—	—	—
126F:				
Tahkenitch	Douglas Fir	124	182	Douglas Fir
	Western Hemlock	—	—	Western Hemlock
126G:				
Tahkenitch	Douglas Fir	124	182	Douglas Fir
	Western Hemlock	—	—	Western Hemlock
127C:				
Urban Land	—	—	—	—
Hazelair	—	—	—	—
Dixonville	Douglas Fir	109	152	Douglas Fir
	Grand Fir	—	—	Ponderosa Pine
	Oregon White Oak	—	—	
	Pacific Madrone	—	—	
128B:				
Veneta	Douglas Fir	108	150	Douglas Fir
	Oregon White Oak	—	—	Ponderosa Pine
	Pacific Madrone	—	—	
	Ponderosa Pine	—	—	
129B:				

EXHIBIT 2-1

NEIL GOLDSCHMIDT
GOVERNOR

Forestry Department

OFFICE OF STATE FORESTER

2600 STATE STREET, SALEM, OREGON 97310 PHONE 378-2560

January 27, 1989

Craig Greenleaf, Acting Director
Department of Land Conservation and Development
1175 Court St. NE
Salem OR 97310

Dear Craig,

This transmits forest soil rating data that supercceds data previously sent to your Department by Forestry in July 1988.

During the past 2 years, a major part of our effort in Secondary Lands has been in helping to identify those forest soils with low and medium productivity potentials (those soils that are, from a forest productivity standpoint, suited to be included with "secondary" lands).

As agreed, we have made detailed examinations of the information available to us from the SCS, and applied the expertise of our staff professionals. As a result of those additional examinations, enclosed is our final listing of those soils for all counties from Lane County north and west, and including Hood River County.

Note that the listing shows the SCS soil survey mapping unit numbers as contained in the applicable published soil survey, followed by the soil map unit name, this department's rating of forest productivity for that soil, and the acreage for that mapping unit from the SCS published soil survey. These ratings generally group those soils capable of forest productivities above 85 cubic feet per acre per year (at culmination of mean annual increment) into the "High" rating, those from 50-85 cubic feet per acre per year into the "Medium" rating, and from 20-50 cubic feet per acre per year into the "Low" rating. We have incorporated deductions for inclusions of soils of lower, and/or of higher productivity into our ratings. We also show, where available, the Site Index (height growth indicator) as presented in the SCS published soil survey, and the computed productivity in cubic feet per acre per year where that appears in published SCS data for that soil.

EXHIBIT 2-2

Note also that we have grouped the soil mapping units into groupings, based on the forest productivity rating alone. Where insufficient information is given (or where insufficient use of the soil mapping unit for forestry exists) on which to base a forestry productivity rating, we have assigned numerical ratings based on our professional judgement, based also on previous input from Jerry Latshaw (SCS) and Herb Huddleston (OSU Extension). In these latter instances, "1" means High productivity is indicated; "2" indicates Medium; "3" indicates Low.

The listing also includes "estimated" productivity ratings based upon the vegetational characteristics and certain soil factors as they appear in SCS published data. We base these estimates on our knowledge of plant ecological relationships and on comparisons with other soils on which SCS has published more complete data.

Note that for Tillamook and Lincoln Counties, less-precise data is available from SCS. Therefore, the information provided may be of lesser utility. Note also that our field organization's work priorities would not permit our making field investigations, nor utilizing their experience in refining productivity estimates as I would have preferred to do.

I hope that this work is of use to you and to the Commission. We will continue to examine the ratings for other counties and to complete that work as soon as possible.

Sincerely,

Dave

Dave Stere
Forest Resources Planning Director

DHS DS-47

cc: Bob Madsen
Ron Eber
Jerry Latschaw
Herb Huddleston

Attachments
13 county forest soil rating lists

EXHIBIT 2-3

ds-47a 1-11-88

LANE COUNTY - FOREST SOILS RATINGS

SCS #	SCS Name	(Site Index) Rating		SCS Acreage	Cuft/Ac per yr
004G	Atring-Rock Outcrop Complex, 30-60%	Med	120	1140	86
005	Awbrig sicl	3		9890	est 40
006	Awbrig Urban Land complex	3		350	est 20
008	Bashaw c	3		9650	est 30
009	Bashaw-Urban Land complex	3		390	est 20
010	Beaches	3		1000	
017	Braiiier muck, drained	3		1160	
018	Braiiier muck, tidal	3		930	
019	Brenner sicl	3		860	
021B	Bullards-Ferrelo loams, 0-7%	Med	144	510	150
021C	Bullards-Ferrelo loams, 7-12%	Med	144	1360	150
021E	Bullards-Ferrelo loams, 12-30%	Med	144	1210	150
021G	Bullards-Ferrelo loams, 30-60%	Med	144	850	150
022	Camas gr sl, occ flooded	3		6370	est 40
023	Camas-Urban land complex	3		600	est 20
028C	Chehulpum sil, 3-12%	3		1970	est 40
028E	Chehulpum sil, 12-40%	3		440	est 40
033	Conser sicl	3		4200	est 50
034	Courtney gr sicl	3		2920	est 40
038	Dayton, sil, clay sub	3		4280	est 40
042E	Dixonville-Hazelair-Urban Land, 12-35%	Low		640	est 35
043C	Dixonville-Philomath-Hazelair, 3-12%	Med		11480	est 62
043E	Dixonville-Philomath-Hazelair, 12-35%	Med		22990	est 68
044	Dune Land	3		5870	
045C	Dupee sil, 3-20%	Med		20190	est 70
048	Fluvents, Nearly Level	3		9550	
052B	Hazelair sicl, 2-7%	Low		5680	est 40
052D	Hazelair, 7-20%	Low		41510	est 40
053	Heceta fs	3		2010	est 20
073	Linslaw l	2		5700	est 80
075	Malabon sicl	2		15350	est 65
076	Malabon-Urban land complex	2		6420	est 50
077B	Marcola cob sicl, 2-7%	Med		690	est 70
085	Natroy sicl	3		15170	est 60
086	Natroy sic	3		2100	est 60
087	Natroy-Urban Land Complex	3		610	est 40
094C	Netarts fs, 3-12%	Med	80	1060	58
094E	Netarts fs, 12-30%	Med	80	420	58
098	Noti l	3		3860	est 30
100	Oxley gr sil	2		2010	est 80
101	Oxley-Urban land complex	2		870	est 60
102C	Panther sicl, 2-12%	3		8400	est 50
103C	Panther-Urban Land complex, 2-12%	3		440	est 40
105A	Pengra sil, 1-4%	3		5070	est 50
106A	Pengra-Urban land complex, 1-4%	3		780	est 30
107C	Philomath sic, 3-12%	Low		2280	est 50
108C	Philomath cob sic, 3-12%	Low		2280	est 50
108F	Philomath cob sic, 12-45%	Low		7090	est 50
109F	Philomath-Urban land complex, 12-45%	Low		270	est 20

EXHIBIT 2-4

110	Pits	3		700	
114	Riverwash	3		2050	
115H	Rock Outcrop-Kilchis complex, 30-90%	Low		3950	34
116G	Rock Outcrop-Witzel complex, 10-70%	Low		1480	21
125C	Steiwer l, 3-12%	Low		2790	est 30
125D	Steiwer l, 12-20%	Low		1000	est 30
125F	Steiwer l, 20-50%	Low		1240	est 30
127C	Urban Land-Hazelair-Dixonville, 3-12%	Low		1450	est 45
130	Waldo sicl	3		7550	est 50
131C	Waldport fs, 0-12%	Low	92	1700	29
131E	Waldport fs, 12-30%	Low	92	1000	29
131G	Waldport fs, 30-70%	Low	92	650	29
132E	Waldport fs, thin surf., 0-30%	Low	92	2110	29
133C	Waldport-Urban Land Complex, 0-12%	Low		250	est 20
136	Willanch fsl	3		870	est 40
137F	Winberry v gr l, 10-45%	Low	70	560	48
138E	Witzel v cob l, 3-30%	Med	90	5780	70
138G	Witzel v cob l, 30-75%	Med	90	5520	70
141	Yaquina-Urban land complex	3		260	est 50
142G	Yellowstone-Rock Outcrop, 10-60%	Low	86	1560	38

Total - LOW & MEDIUM ratings -- 293,500 acres

001A	Abiqua sicl, 0-3%	High	152	5210	161
001B	Abiqua sicl, 3-5%	High	152	1230	161
002E	Astoria sil, 5-30%	High	170	3380	181
003E	Astoria Variant sil, 3-30%	High	170	200	181
003G	Astoria Variant sil, 30-60%	High	170	1500	181
007B	Bandon sl, 0-7%	High	138	240	142
007C	Bandon sl, 7-12%	High	138	220	142
007F	Bandon sl, 12-50%	High	138	270	142
011C	Bellpine sicl, 3-12%	High	155	15950	164
011D	Bellpine sicl, 12-20%	High	155	58600	164
011E	Bellpine sicl, 20-30%	High	155	38100	164
011F	Bellpine sicl, 30-50%	High	155	27100	164
012E	Bellpine cob sicl, 2-30%	High	155	4230	164
013F	Blachly cl, 30-50%	High	148	13400	156
013G	Blachly cl, 50-70%	High	148	2960	176
014E	Blachly sicl, 3-30%	High	165	7030	176
014F	Blachly sicl, 30-50%	High	165	8520	176
015E	Blachly-McCully cls, 3-30%	High	147	23000	155
016D	Bohannon gr l, 3-25%	High	155	15800	164
016F	Bohannon gr l, 25-50%	High	155	27770	164
016H	Bohannon gr l, 50-90%	High	155	92000	164
020B	Briedwell cob l, 0-7%	High	135	1780	138
024	Chapman l	1		3800	est 140
025	Chapman-Urban land complex	1		1070	est 100
026	Chehalis sicl, occ flooded	1		9300	est 100
027	Chehalis-Urban land complex	1		700	est 90
029	Cloquato sil	1		5170	est 120
030	Cloquato-Urban land complex	1		230	est 100
031	Coburg sicl	1		13480	est 100
032	Coburg-Urban land complex	1		2740	est*90
035D	Crusier gr cl, 3-25%	High	135	2670	138
035F	Crusier gr cl, 25-50%	High	135	1710	138

EXHIBIT 3-1

LAND USE PLANNING NOTES <<<<

NUMBER 3 X APRIL 1998

"STEWARDSHIP IN FORESTRY"

PURPOSE: This technical bulletin has been developed to help landowners and local governments when they must use an alternative to the USDA Soil Survey to determine the productivity of forestland. Under OAR 660-06-005 "where SCS data are not available or are shown to be inaccurate, an alternative method for determining productivity may be used. An alternative method must provide equivalent data and be approved by the Department of Forestry." This paper describes the methodology that the Department approves and provides guidance and other information necessary to use that methodology. We have also included some background information to answer some commonly asked questions about the cubic foot productivity class system.

Why use the average annual cubic foot production in land use decisions?

The Department of Forestry advises using the USDA Cubic Foot Productivity Class[1] system, as opposed to other systems of measure, when making land use planning decisions because it measures the relative productivity of the soil, it is not dependant upon the condition of the forest or the species of trees currently growing on the site, and it is more consistent than other measures.

The cubic foot productivity class system ranks soils based upon the mean annual increment measured in cubic feet at the point in time where the culmination of mean annual increment (maximum average annual growth) occurs. This is the average growth rate of the timber over the life of the stand measured at the peak of that average growth rate. The table below shows the potential timber yields of productivity classes 1 - 5 in cubic feet per acre per year (cuft/ac/yr).

[1]Field instructions for forest surveys in Washington, Oregon, and Northern California. USDA Forest Service, PNW Range and Experiment Station.

EXHIBIT 3-L

Because the soil survey is not site specific information, The Department of Forestry has agreed to approve methods that would allow a land owner to use site specific information to determine the productivity of the land when applying for a dwelling or other land use decision.

The process should work something like this:

1. The Department of Forestry has approved a methodology for calculating site productivity (the details are described below in this document). When the landowner contacts the county with concerns about the productivity rating of their property, they are provided with information about the required methodology.

2. The landowner must have an independent, knowledgeable person, like a consulting forester, measure the trees on the property and calculate the cubic foot site class using the approved methods. Plots must be taken to measure the productivity of each different soil type and aspect on the property. The consultant must use care when selecting site trees to obtain an accurate measurement, and the consultant's report must provide adequate detail to determine whether the approved methods were followed.

3. The consultant shall provide a copy of the report to the county to use in making land use decisions. If the county has questions about whether the consultant followed the methodology, the Department of Forestry may need to review the report. However, because this is a land use decision, the county must make the final decision to accept or reject the work of the consultant.

Methodology Approved by the Department of Forestry for Calculating Site Productivity

The Department of Forestry does not measure sites for landowners. The landowner needs to have an independent qualified person, such as a consulting forester, take the measurements and calculate the cubic foot site class. The methodology the Department of Forestry approves to determine the productivity of an area is contained in the *Field instructions for forest surveys in Washington, Oregon, and Northern California. USDA Forest Service, PNW Range and Experiment Station.* Equivalent published methodology is more widely available from a Weyerhaeuser research paper, by King[2]. These papers describe how to select site-trees and calculate site index. A second paper, from the US Department of Agriculture[3], uses site index information

[2]King, James E. 1966. Site index curves for Douglas-fir in the Pacific Northwest. Weyerhaeuser Forestry Paper No. 8. Weyerhaeuser Forestry Research Center, Centralia, WA.

[3]USDA. 1986. Culmination of mean annual increment for commercial forest trees of Oregon.

(continued on next page)

EXHIBIT 3-3

as determined from on-site measurements to reference a set of cubic foot productivity tables. We approve this method because it is based on site specific measurements and it will produce results that are consistent with the Soil Survey.

A summary of the methodology and the necessary tables to calculate site class for the three most common forest types are included below. The methods listed in this paper can be used in combination with other published site index and yield tables if the site is not suited to one of these species. However, the use of other tables or the use of other species to determine site index must be approved by the Department of Forestry on a case by case basis.

Plots must be taken to measure the productivity of each different soil type and aspect on the property. Selection of site-trees (trees selected to determine site index) is a critical part of accurately determining the productivity of the land. To be used, site-trees must have remained in a dominant or co-dominant position throughout their life. If the land has been selectively harvested in the past, most or all of the dominant trees in the stand may have been removed. Basing site index calculations on the remaining trees, grown in lower crown positions, will not accurately measure site productivity. In some cases it may be difficult to find enough site trees on the property to accurately determine productivity. If insufficient dominant trees exist on the property to determine the site index, site-trees may be selected from adjacent properties with the same aspect, elevation, and soil type.

If the parcel is a forest site and no trees are available for site index calculations, or if the site index cannot be determined accurately from the existing timber in the area, then soil survey methodology will be required to accurately assess the site productivity. To map the area and provide site specific data that is more accurate than the USDA Soil Survey will require the landowner to employ a soil scientist to do a higher intensity soil survey. The qualifications and procedures for conducting such a survey are contained in OAR 603-80-0040 (3). This survey must provide detailed information on the soil types represented on the property.

General Rules for Selecting Site Trees

1. If possible, use the species that dominates the area. Height from 15 to 20 dominant and co-dominant trees and age counts on about 10 trees should be sufficient to determine site index if the area is homogeneous. Additional plots will need to be taken to represent different soil types and aspects across the property.

2. You may select site trees of different species as long as they use the same site table.

Technical Note No. 2. USDA, Soil Conservation Service, Portland, OR. (Note: the SCS - Soil Conservation Service is now the NRCS - Natural Resource Conservation Service)

EXHIBIT 3-Y

3. Site index should not vary by more than 20 or 30 between site trees (as indicated on each site table), unless the difference can be explained by actual site variation. Use the site index tables below to compare site measurements.

4. If you select Douglas-fir or grand fir site trees use the site tree selection method for King's Douglas-fir table, outlined below. For other site tree species, use the site tree selection criteria for other species.

Method for Selecting Site Trees for King's Site Index Table
(Use for Douglas-fir and grand fir)

1. Within the plot area, locate an approximately circular area that encompasses 25 trees (the "site index clump") and that is representative of the site being sampled. When there is a choice, favor well-stocked areas over sparse areas. When counting trees, include only Douglas-fir with normally-formed tops; do not include understory trees that are both younger and shorter than the general crown canopy.

2. Of these 25 trees, select the 5 with the largest dbh as site trees.

3. Any site tree with a clear history of suppression should be rejected, and the next largest tree selected if it is suitable. However, you may select a suppressed tree over a shorter, suppression-free tree of the same age.

4. If a 25-tree clump is not available, a smaller clump may be used. You should still limit the site tree subsample to the 1/5 of the trees in the clump with the largest dbh unless this gives you less than three site trees.

Method for Selecting Site Trees for Other Site Index Tables

1. Select trees that are or have been free from suppression for their entire lives. A tree that has been suppressed will have closely-spaced annual growth rings on all or part of its increment core.

2. Select dominant trees.

3. Trees less than 50 years old are undesirable if older trees are available. For ponderosa pine, trees 60 to 120 years old are most desirable.

4. Site trees should be evenly distributed across the plot area.

5. Select trees that show no signs of top-out, such as crooks or forks, unless these trees are taller than normally-formed trees of the same dbh.

6. If no suitable site trees are available from the property, select dominant trees from a nearby area with the same general aspect, elevation, and soil type. Note the location of the site trees in your report.

EXHIBIT 3-5

Site Tables:

Depending on the species of site tree selected, use the appropriate table to determine site index.

1. King's Douglas-fir table. Use for Douglas-fir and grand fir.

2. Barnes western hemlock table. Use for western hemlock and Sitka spruce.

3. Meyer's ponderosa pine table. Use for ponderosa pine and Jeffrey pine. Use this table when in stands that are predominantly pine, or when pine site trees are all that are available (except in the Willamette Valley).

How to use site tables:

The following site index tables are "upper limit tables." This means that when a tree height indicates a site index that falls between two site indices listed you should use the higher one. Example: Site tree is Douglas-fir, 75 years old at breast height, 115 feet tall. King's Douglas-fir site index table indicates that a height of 113 feet at age 75 falls between site index 80 and 90. Site index is therefore 90.

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Salem, Oregon 97310

To Order Copies of This Publication
Call or Write:
Oregon Department of Forestry
Resources Planning
2600 State Street
Salem, Oregon 97310
503-945-7411

Oregon
Theodore R. Kulongoski, Governor

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JUN 25 2003
JACKSON COUNTY
PLANNING

Department of Forestry
State Forester's Office
2600 State Street
Salem, OR 97310
503-945-7200
FAX 503-945-7212
TTY 503-945-7213 / 800-437-4490
http://www.odf.state.or.us

June 18, 2003

Raul Woerner
Jackson County Planning Department
10 S. Oakdale
Medford, Oregon 97501

Dear Raul Woerner:

Below are some comments on the proposed change to Jackson County's forestland definition. Please enter my comments into the record and inform me about your decisions on this issue.

In 1990 the Commission did a lot of work on the definition of forestlands, and tried to make it compatible with standards and goals of the Oregon Forest Practices Act. They recognized that these two programs share the common goal of sustaining forestland and need to work together to achieve that goal. The Commission's definition of forestland in Goal 4 is,

"Forest lands are those lands acknowledged as forest lands as of the date of adoption of this goal amendment. Where a plan is not acknowledged or a plan amendment involving forest lands is proposed, forest land shall include lands which are suitable for commercial forest uses including adjacent or nearby lands which are necessary to permit forest operations or practices and other forested lands that maintain soil, air, water and fish and wildlife resources."

This definition includes some specific criteria that must be met when defining forestland.

1. "Suitable for commercial forest uses." Lands capable of producing 20 to 50 cubic feet per acre per year (cf/ac/yr) are suitable for commercial forest uses.

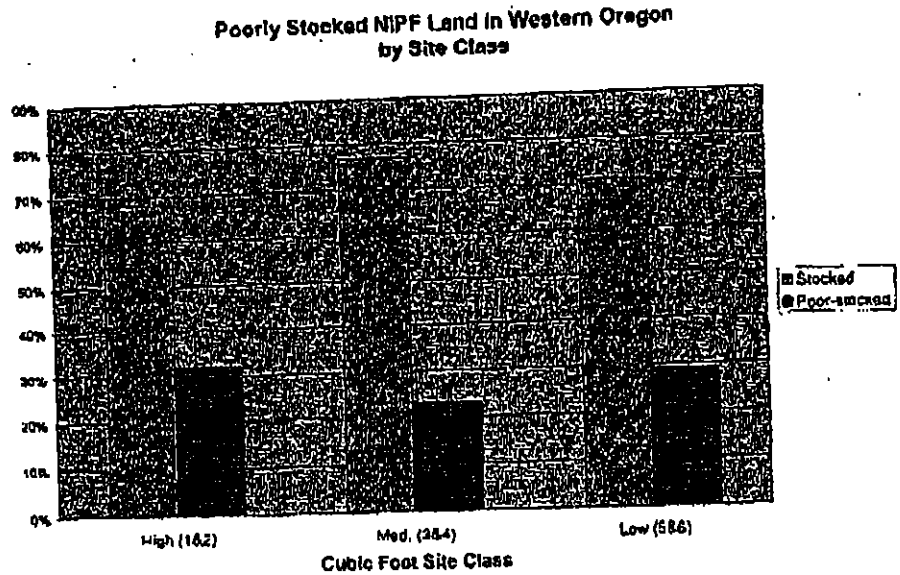
The current definition in the Jackson County Comprehensive Plan is: "Forest land that is capable of producing twenty cubic feet per acre of annual growth of wood growth." Land capable of producing 20 cf/ac/yr is "suitable for commercial forest uses." The proposed definition would raise the commercial threshold to 50 cf/ac/yr. To justify that change, and the other proposed changes, Jackson County needs to show why this land is not "suitable for commercial forest uses."

EXHIBIT 4-2

The Oregon Department of Forestry believes that the land between 20 and 50 cf/ac/yr is suitable for commercial uses and requires landowners to reforest when they harvest timber on these lands. The USFS, BLM, and the Oregon Forest Practices Act all use the 20 cf/ac/yr standard as the commercial threshold. This threshold has been set for a good reason. Biologically, 20 cf/ac/yr is the point where stands change from being dominated by low value, non-commercial species like hardwoods or juniper to being capable of producing stands of commercially valuable species like pine.

Above 20 cf/ac/yr, productivity is not a good indicator of whether the stand will be stocked with commercial species, and therefore producing timber. As shown in the graph below, on non-industrial private forestlands where most of the development occurs, there is no statistical relationship between site productivity and whether there is a manageable stand of timber on the land.

Relationship between site productivity and stocking. Developed from USFS PNW Forest Inventory and Analysis plots.



Removing private land between 20 and 50 cf/ac/yr form the commercial forest land base would set a precedent with significant statewide consequences. In southern Oregon there are only about 37,000 acres in this productivity category, but statewide there are more than 1.6 million acres that would be removed from the land base under the proposed definition.

EXHIBIT 4-3

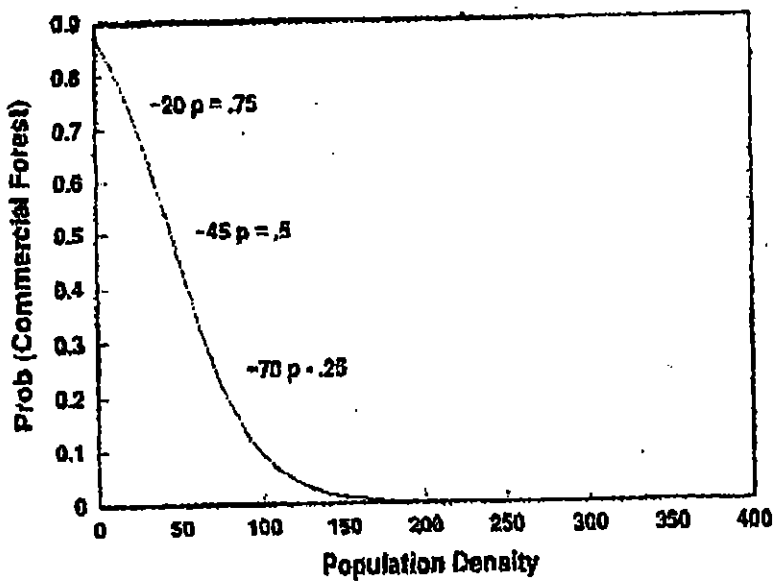
2. The Goal 4 definition of forestlands includes *"nearby lands which are necessary to permit forest operations or practices."* Jackson County's proposed definition does not address these lands.

Jackson County's proposed definition of forestland could remove these lands from protection under Goal 4 and result in increased development in forested areas. As development occurs, conflicts between residential and commercial forest uses increase and result in lower timber production.

Wear et. al (1999)[1] established a relationship between population density and the probability of forests being managed for commercial timber production.

The Figure below shows that as population increases the probability of management decreases.

Relationship of Population Density to the Probability of Commercial Forest Management (From Wear 1999)



[1] Wear, D. N. et. al. 1999. The effects of population growth on timber management and inventories in Virginia. Forest Ecology and Management, 118:107-115.

EXHIBIT 4-4

Weer found that, "...the probability of forest management approaches zero at about 150 people per square mile (psm). At 70 psm there is a 25% chance of commercial forestry. At about 45 psm the odds are 50:50 that commercial forestry will be practiced and at 20 psm there is a 75% chance. The implication is that a transition between rural and urban use of forests occurs between 20 and 70 psm."

The Oregon Department of Forestry is concerned that the proposed changes to the definition of forestland could result in increased development that would negatively impact commercial production on developed and adjacent lands.

3. The forestland definition also includes "*other forested lands that maintain soil, air, water and fish and wildlife resources.*" Jackson County's proposed definition does not address this requirement and could result in degrading low elevation habitats.

Some wildlife species require low elevation hardwoods as their primary source of habitat. The proposed definition could reduce the size of the land base, remove Goal 4 protections, and result in additional parcels and dwellings. Dividing the forest into smaller parcels and adding dwellings can seriously reduce the values that the forest provides. Forest fragmentation is the process of dividing large blocks of forest into smaller more isolated islands within a mosaic of other land uses, typically agricultural or urban land uses (Helms, 1998)[2].

Forest fragmentation displaces wildlife by reducing the total area of contiguous forest, introducing non-native invasive species, and isolating the remaining forest patches. This can lead to removal of the top predators, an increase in the number of small to mid-sized predators, and in some places large increases in the number of herbivores. The results of fragmentation can be over-browsing and removal of certain plant species, increased predation and nest parasitism, a reduction in the number of ground-nesting birds and other species, plus a general reduction in certain types of wildlife habitats (Patel-Weynand, 2002)[3].

---

[2] Helms, J. 1998. The dictionary of forestry. Society of American Foresters. Bethesda, MD.

[3] Patel-Weynand, Toral. 2002. Biodiversity and sustainable forestry: State of the science review. National Commission on Science for Sustainable Forestry. Washington DC.

EXHIBIT 4-5

Conclusion

Jackson County's proposed forestland definition is not consistent with Goal 4. Additional work needs to be done defining the lands that are "capable" of commercial forest production and addressing the other requirements in the definition of forestlands.

Sincerely,

Kevin R. Birch
Planning Coordinator
Oregon Department of Forestry

KRB:cma

cc. Ted Lorensen
David Morman
Ron Eber, DLCD

EXHIBIT 5-1

December 24, 2001

Nancy Kincaid
Department of Land Conservation and Development
635 Capitol St. NE Su. 200
Salem, OR 97310

Re: Otis/Lewis Zone Change Application

Per your request I have reviewed the information provided by the applicant and disagree with the conclusion that the site is occupied by non-forest soils. The applicant contends that "site indexes lower than 80 are not generally considered to be viable tree growing sites." This is incorrect. With a 50-year site index of 80, sites are capable of growing about 97 cubic feet per acre per year (cf/ac/yr) at culmination of mean annual increment[1]. This is far above the 20 cubic feet per acre per year level that is considered to be the commercial/non-commercial dividing line by the Department of Forestry. Twenty cubic feet per acre per year is the biological dividing line where sites can become fully occupied with stands of commercial pine species. Therefore, the Forest Practices Act requires sites to be reforested after harvest if the soil is capable of producing 20 cf/ac/yr. The federal agencies (USFS and BLM) also consider sites greater than 20 cf/ac/yr to be commercial timber growing sites, and the USDA considers sites better than 80 cf/ac/yr to be "prime" timberland. The forest industry also manages lands that are in the lower productivity classes. In southwestern Oregon (Coos, Curry, Jackson, Josephine, and Douglas counties) 12 percent of the land managed industrial forest managers is capable of producing between 20 and 85 cf/ac/yr.

The applicant lists three soils for the property. Contrary to the information provided by the applicant, the NRCS gives all these soils forest ratings that indicate they are commercially viable for growing timber (Atring – No. 8E – site index 99, Windygap – No. 262F – site index 118, Bellpine – No. 23F – site index 111), and recommend planting Douglas-fir.

[1] Chambers, C. J. 1980. Empirical growth and yield tables for the Douglas-fir zone. DNR Report 41. 49 pgs.

EXHIBIT 5-2

According to the information provided by NRCS, these parcels are capable of producing about 1.35 million board feet of Douglas-fir timber at the end of a normal 60-year rotation. Therefore, the Department of Forestry considers these parcels to be capable of commercial timber production.

Sincerely,

Kevin R. Birch
Planning Coordinator

CC. David Morman
Mike Rupp, DLCD

EXHIBIT 5-3

Jim & Irina Just

From: "BIRCH Kevin R" <KBIRCH@ODF.STATE.OR.US>
To: "Jim & Irina Just" <lafermenoire@proaxis.com>
Sent: Monday, February 11, 2002 2:46 PM
Subject: RE: Forest soils productivity

I'm sorry that I haven't gotten back to you sooner, I have been out of the office. Since we are not funded to work on land use issues, I try to limit my involvement to statewide issues and use DLCD to prioritze and pick cases where they need technical expertise. However, feel free to use my letter to DLCD.

-----Original Message-----
From: Jim & Irina Just [mailto:lafermenoire@proaxis.com]
Sent: Wednesday, February 06, 2002 5:14 PM
To: BIRCH Kevin R
Subject: Forest soils productivity

Hi Kevin,

I'm facing a case in Jackson County (Rutigliano, Jackson County # 1997-5-CPA-RM) that is similar to a Douglas County case (Otis/Lewis, Douglas County # 01-172, DLCD # 014-01). In that case you submitted a letter, at the request of Nancy Kincaid. In that letter you stated that it ODF considered 20 cf/ac/yr the threshold for commercial forest productivity.

In the Rutigliano case the subject property is comprised of four soil types: 7-% Tallowbox (189G), ranked "6" with an index of 42.9; 20% Manita-Vannoy Complex (109E), ranked "4" with an index of 85.8. The remaining 10% is stated to consist of Tallowbox gravelly sandy loam (189E), ranked "6" with an index of 42.9 and Manita loam (108D), ranked "4" with an index of 85.8.

The claim is being made that these soils do not meet the Goal 4 definition of "forest land" because they are not commercial forest soils.

It would be very helpful if you could submit a letter to the record in this case stating your department's position. If that is not possible, would you object if I were to submit a copy of the letter you prepared in the Otis/Lewis case?

Thanks very much for your help. I will be happy to provide additional information you require. Please note that the final hearing date is scheduled for next Wednesday, February 13.

Jim Just
Interim Planning Advocate, Southern Oregon Region
1000 Friends of Oregon
39621 Almen Drive
Lebanon, OR 97355
541-258-8990 phone
541-258-6810 fax
web: www.friends.org <http://www.friends.org>

ATTACHMENT DIVIDER

ATTACHMENT DIVIDER

FAX Transmittal

Harry A. Taylor-Land Use Consultant
Phone: (541) 935-6202 FAX-(541) 935-4918

Date: 4-28-04

TO: JERRY KENDALL ..... Fax: 682-3947
LANE CO. LAND MANAGEMENT

Pages: 19

Urgent X For Review ___ Please comment ___

Message:

JERRY —

RE: GRANT RECORD PA 01-5875

HARD COPY TO FOLLOW.

Harry

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Harry A. Taylor
Land Use Consultant
88275 Territorial Road
PO Box 1420
Veneta ,OR 97487
Office (541) 935-6202 E-mail:hatland@worldnet.att.net FAX (541)-935-4918

April 28, 2004

Mr. Jerry Kendall, Associate Planner
Lane County Land Management Division
125 East 8th Avenue
Eugene, OR 97401

Re: Grant Record PA 01-5875

Dear Jerry,

Attached are two items to be included in the Grant Plan Amendment and Zone Change record. These materials include: 1) Board of County Commissioner Order 84-9-12-3 (1 page) and 2) Oregon Department of Forestry Land Use Planning Notes (16 pages).

Sincerely,

Harry A. Taylor

Harry A. Taylor

IN THE BOARD OF COUNTY COMMISSIONERS OF LANE COUNTY, OREGON

ORDER 84-9-12-3) IN THE MATTER OF ADOPTING
) A SUPPLEMENTAL FINDING IN
) SUPPORT OF PA 883

WHEREAS, in PA 883, the Rural Comprehensive Plan Ordinance that adopted the plan policies, 28 working papers, while not part of the Ordinance itself, were adopted in support thereof, and

WHEREAS, since PA 883's adoption, it has come to our attention that certain soils information in Appendix I to the Forest Lands Working Paper is not entirely accurate, now, therefore, be it

ORDERED, that the following supplemental finding is hereby adopted in order to identify the correct soils information to use when determining commercial forest soils.

"Appendix I of the Forest Lands Working Paper was intended as an example of commercial forest soils and their corresponding CFSC ratings. However, these soils and ratings are not complete and are not entirely accurate. Therefore, Appendix I should not be utilized when determining commercial forest soils. Instead, the most current soils Data and Soils Interpretations as utilized by the U.S. Dept. of Agriculture soil Conservation Service should be relied upon in conjunction with the definition of "commercial forest land" (50 CFSC) as adopted by the Board of Commissioners in Ordinance No. PA 889, Exhibit "C".

Dated this 12th day of Sept., 1984.

Chair, Lane County Office of Legal Counsel

LAND USE PLANNING NOTES <<<<

NUMBER 3 X APRIL 1998

"STEWARDSHIP IN FORESTRY"

PURPOSE: This technical bulletin has been developed to help landowners and local governments when they must use an alternative to the USDA Soil Survey to determine the productivity of forestland. Under OAR 660-06-005 "where SCS data are not available or are shown to be inaccurate, an alternative method for determining productivity may be used. An alternative method must provide equivalent data and be approved by the Department of Forestry." This paper describes the methodology that the Department approves and provides guidance and other information necessary to use that methodology. We have also included some background information to answer some commonly asked questions about the cubic foot productivity class system.

Why use the average annual cubic foot production in land use decisions?

The Department of Forestry advises using the USDA Cubic Foot Productivity Class[1] system, as opposed to other systems of measure, when making land use planning decisions because it measures the relative productivity of the soil, it is not dependent upon the condition of the forest or the species of trees currently growing on the site, and it is more consistent than other measures.

The cubic foot productivity class system ranks soils based upon the mean annual increment measured in cubic feet at the point in time where the culmination of mean annual increment (maximum average annual growth) occurs. This is the average growth rate of the timber over the life of the stand measured at the peak of that average growth rate. The table below shows the potential timber yields of productivity classes 1 - 5 in cubic feet per acre per year (cuft/ac/yr).

[1]Field instructions for forest surveys in Washington, Oregon, and Northern California. USDA Forest Service, PNW Range and Experiment Station.

CUBIC FOOT PRODUCTIVITY CLASSES

CODE	POTENTIAL YIELD-MEAN ANNUAL INCREMENT
1	225 or more cuft/ac/yr
2	165 to 224 cuft/ac/yr
3	120 to 164 cuft/ac/yr
4	85 to 119 cuft/ac/yr
5	50 to 84 cuft/ac/yr

Cubic foot productivity class was developed to compare the relative productivity of different soils. Other measures which might be used to compare different parcels, such as site class or site index, are not consistent between species and authors. Site class is commonly used on the west side to describe the productivity of Douglas-fir forests, but site class is only used for Douglas-fir and not for other species. Site index is calculated as tree height divided by tree age at a base age of 100 or 50. Since on the same area, in the same length of time, different species grow to different heights, site index is not consistent between species.

For example cubic foot productivity class III can produce between 120 and 164 cubic feet per acre per year from a fully stocked natural stand. In the next column is a comparison with several species and site indexes.

CUBIC FOOT PRODUCTIVITY CLASS 3 (120 - 164 cuft/ac/yr)

Site Index Equal to Productivity Class III

Douglas-fir	
(100 yr Site Index)	130 - 160
Western Hemlock	
(100 yr Site Index)	100 - 110
Ponderosa Pine	
(100 yr Site Index)	120 - 130
White Fir	
(50 yr Site Index)	60 - 70
Engelmann Spruce	
(50 year Site Index)	80 - 90

Another advantage of using cubic foot productivity class is that the ratings are available for most forestland without professional assistance. The published soil surveys contain a rating which can be used by county planners or private landowners to rate productivity and using the information does not require visiting the site or taking measurements.

Why don't we use board feet instead of cubic feet?

Cubic foot volume is a form of measurement commonly used in forestry research and forest management planning. It is a physical measurement based upon the actual volume of wood. On the other hand, board foot volume is based upon a series of rules. The board foot rules were developed to try to determine the amount of lumber which could be sawed (at that time) from a range of different diameter logs. Although its predictive abilities are out of date (1 board foot of log now produces from 1.7 - 2 board feet of lumber), board foot rules continue to be the most common measure used to buy and sell logs in the Northwest. The problem with converting cubic feet to board feet is that the conversion factor is not a constant. Because board foot volume is determined by a rule, one cubic foot of wood from a log with a scaling diameter (small end diameter) of 6 inches contains 3.32 board feet, while one cubic foot of wood from a log with a scaling diameter (small end diameter) of 30 inches contains 6.86 board feet. Therefore as the average diameter of a stand increases in size, the board foot/cubic foot ratio of the stand also increases. To complicate matters further, the length of the logs cut from the tree effects the conversion from cubic feet to board feet. Since trees are tapered and board foot is measured from the small end of the log, cutting the tree into different length logs changes the number of board feet contained in the tree. Because of this difference, the exact number of board feet contained in a stand of timber cannot be determined without knowing how the trees will be bucked into logs.

Because the board feet contained in a stand of timber depends on the average diameter of the stand and the way the trees are bucked into logs, the ratio of board feet to cubic feet is not constant. Comparisons such as soil productivity are much easier to make based upon a constant volume measure such as cubic feet. That is why it is more commonly used in the more technical forestry applications.

General Procedures to Challenge the Site Productivity Listed in the Soil Survey

Before deciding to use an alternative method of measuring the productivity of forestland, documentation should be produced showing that an attempt has been made to use the soil survey and either the soil(s) in question have no rating, or reasons exist indicating that the soil survey may be inaccurate. Where either of these two circumstances exist, a soil scientist from the USDA Natural Resource Conservation Service (NRCS, formerly SCS) should be contacted.

In many cases soils that are primarily used for agriculture were not given ratings for forestry. However, this does not mean they are not capable of growing trees. On the contrary, they may be highly productive, and a NRCS soil scientist may be able to provide a rating of that soil's forest capability. An NRCS soil scientist should also be able to advise you about the procedures used to conduct the soil survey and the accuracy of that survey as it relates to the property and soils in question. The advice received may save both the land owner and local official time and money.

Because the soil survey is not site specific information, The Department of Forestry has agreed to approve methods that would allow a land owner to use site specific information to determine the productivity of the land when applying for a dwelling or other land use decision.

The process should work something like this:

1. The Department of Forestry has approved a methodology for calculating site productivity (the details are described below in this document). When the landowner contacts the county with concerns about the productivity rating of their property, they are provided with information about the required methodology.

2. The landowner must have an independent, knowledgeable person, like a consulting forester, measure the trees on the property and calculate the cubic foot site class using the approved methods. Plots must be taken to measure the productivity of each different soil type and aspect on the property. The consultant must use care when selecting site trees to obtain an accurate measurement, and the consultant's report must provide adequate detail to determine whether the approved methods were followed.

3. The consultant shall provide a copy of the report to the county to use in making land use decisions. If the county has questions about whether the consultant followed the methodology, the Department of Forestry may need to review the report. However, because this is a land use decision, the county must make the final decision to accept or reject the work of the consultant.

Methodology Approved by the Department of Forestry for Calculating Site Productivity

The Department of Forestry does not measure sites for landowners. The landowner needs to have an independent qualified person, such as a consulting forester, take the measurements and calculate the cubic foot site class. The methodology the Department of Forestry approves to determine the productivity of an area is contained in the *Field instructions for forest surveys in Washington, Oregon, and Northern California. USDA Forest Service, PNW Range and Experiment Station.* Equivalent published methodology is more widely available from a Weyerhaeuser research paper, by King[2]. These papers describe how to select site-trees and calculate site index. A second paper, from the US Department of Agriculture[3], uses site index information

[2]King, James E. 1966. Site index curves for Douglas-fir in the Pacific Northwest. Weyerhaeuser Forestry Paper No. 8. Weyerhaeuser Forestry Research Center, Centralia, WA.

[3]USDA. 1986. Culmination of mean annual increment for commercial forest trees of Oregon.

(continued on next page)

as determined from on-site measurements to reference a set of cubic foot productivity tables. We approve this method because it is based on site specific measurements and it will produce results that are consistent with the Soil Survey.

A summary of the methodology and the necessary tables to calculate site class for the three most common forest types are included below. The methods listed in this paper can be used in combination with other published site index and yield tables if the site is not suited to one of these species. However, the use of other tables or the use of other species to determine site index must be approved by the Department of Forestry on a case by case basis.

Plots must be taken to measure the productivity of each different soil type and aspect on the property. Selection of site-trees (trees selected to determine site index) is a critical part of accurately determining the productivity of the land. To be used, site-trees must have remained in a dominant or co-dominant position throughout their life. If the land has been selectively harvested in the past, most or all of the dominant trees in the stand may have been removed. Basing site index calculations on the remaining trees, grown in lower crown positions, will not accurately measure site productivity. In some cases it may be difficult to find enough site trees on the property to accurately determine productivity. If insufficient dominant trees exist on the property to determine the site index, site-trees may be selected from adjacent properties with the same aspect, elevation, and soil type.

If the parcel is a forest site and no trees are available for site index calculations, or if the site index cannot be determined accurately from the existing timber in the area, then soil survey methodology will be required to accurately assess the site productivity To map the area and provide site specific data that is more accurate than the USDA Soil Survey will require the landowner to employ a soil scientist to do a higher intensity soil survey. The qualifications and procedures for conducting such a survey are contained in OAR 603-80-0040 (3). This survey must provide detailed information on the soil types represented on the property.

General Rules for Selecting Site Trees

1. If possible, use the species that dominates the area. Height from 15 to 20 dominant and co-dominant trees and age counts on about 10 trees should be sufficient to determine site index if the area is homogeneous. Additional plots will need to be taken to represent different soil types and aspects across the property.

2. You may select site trees of different species as long as they use the same site table.

Technical Note No. 2, USDA, Soil Conservation Service, Portland, OR. (Note: the SCS - Soil Conservation Service is now the NRCS - Natural Resource Conservation Service)

3. Site index should not vary by more than 20 or 30 between site trees (as indicated on each site table), unless the difference can be explained by actual site variation. Use the site index tables below to compare site measurements.

4. If you select Douglas-fir or grand fir site trees use the site tree selection method for King's Douglas-fir table, outlined below. For other site tree species, use the site tree selection criteria for other species

Method for Selecting Site Trees for King's Site Index Table
(Use for Douglas-fir and grand fir)

1. Within the plot area, locate an approximately circular area that encompasses 25 trees (the "site index clump") and that is representative of the site being sampled. When there is a choice, favor well-stocked areas over sparse areas. When counting trees, include only Douglas-fir with normally-formed tops; do not include understory trees that are both younger and shorter than the general crown canopy.

2. Of these 25 trees, select the 5 with the largest dbh as site trees.

3. Any site tree with a clear history of suppression should be rejected, and the next largest tree selected if it is suitable. However, you may select a suppressed tree over a shorter, suppression-free tree of the same age.

4. If a 25-tree clump is not available, a smaller clump may be used. You should still limit the site tree subsample to the 1/5 of the trees in the clump with the largest dbh unless this gives you less than three site trees.

Method for Selecting Site Trees for Other Site Index Tables

1. Select trees that are or have been free from suppression for their entire lives. A tree that has been suppressed will have closely-spaced annual growth rings on all or part of its increment core

2. Select dominant trees.

3. Trees less than 50 years old are undesirable if older trees are available. For ponderosa pine, trees 60 to 120 years old are most desirable.

4. Site trees should be evenly distributed across the plot area.

5. Select trees that show no signs of top-out, such as crooks or forks, unless these trees are taller than normally-formed trees of the same dbh.

6 If no suitable site trees are available from the property, select dominant trees from a nearby area with the same general aspect, elevation, and soil type. Note the location of the site trees in your report.

Site Tables:

Depending on the species of site tree selected, use the appropriate table to determine site index.

1. King's Douglas-fir table. Use for Douglas-fir and grand fir.

2. Barnes western hemlock table. Use for western hemlock and Sitka spruce.

3. Meyer's ponderosa pine table. Use for ponderosa pine and Jeffrey pine. Use this table when in stands that are predominantly pine, or when pine site trees are all that are available (except in the Willamette Valley).

How to use site tables:

The following site index tables are "upper limit tables." This means that when a tree height indicates a site index that falls between two site indices listed you should use the higher one. Example: Site tree is Douglas-fir, 75 years old at breast height, 115 feet tall. King's Douglas-fir site index table indicates that a height of 115 feet at age 75 falls between site index 80 and 90 Site index is therefore 90.

Published by:

Oregon Department of Forestry
Resource Planning Office
2600 State Street
Salem, Oregon 97310

To Order Copies of This Publication
Call or Write:
Oregon Department of Forestry
Resources Planning
2600 State Street
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PONDEROSA PINE SITE TABLE

SITE INDEX TABLE — HT IN FEET

BH AGE	40	50	60	70	80	90	100	110	120	130	140	150
30	2.95	10.17	17.39	24.61	31.82	39.04	46.26	53.15	60.37	67.59	74.80	82.02
40	12.14	20.01	27.56	35.43	42.98	50 85	58.40	56.27	73.82	81.69	85.24	97.11
50	20.34	28.54	36.75	44.95	53.15	61.02	69.23	77.43	85.83	93.83	102.03	110.24
60	27.56	36.09	44.62	53.15	61.68	70.21	78.74	87.27	95.80	104.33	112.86	121.39
70	33.46	42.32	51.18	60.04	69.23	78.08	86.94	95.80	104.66	113.52	122.70	131.56
80	38.39	47.57	56.76	65.94	75.46	84.65	93.83	103.35	112.53	121.72	130.91	140.42
90	41.99	51.84	61.35	70.87	80.71	90.22	99.74	109.58	119.09	128.94	138.45	147.97
100	44.95	55.12	64.96	75.13	84.97	95.14	104.99	115.16	125.00	134.84	145.01	154.86
110	47.24	57.41	67.91	78.08	88.58	99.08	109.25	119.75	130.25	140.42	150.92	161.09
120	48.56	59.38	69.88	80.71	91.54	102.36	113.19	123.69	134.51	145.34	156.17	166.99
130	49.21	60.37	71.52	82.68	93.83	104.99	116.14	127.30	138.45	149.61	160.76	171.92
140	50.85	62.34	73.82	85.30	96.78	108.27	119.75	131.23	142.72	154.20	165.68	176.64
150	52.17	63.90	75.79	87.27	99.08	110.89	122.70	134.51	146.33	158.14	169.62	181.43
160	53.48	65 29	77.43	89.57	101.71	113.52	125.88	137.79	149.93	161.74	173.88	186.02
170	54.46	66.93	79.07	91.54	104.00	116.14	128.61	141.08	153.21	165.68	177.82	190.29
180	55.77	68.24	81.04	93.50	106.30	118.77	131.56	144.03	156.82	169.29	182.09	194.55
190	56.76	69.55	82.68	95.47	108.27	121.39	134.19	146.98	160.10	172.90	185.69	198.82
200	57.74	71,19	84.32	97.44	110.56	123.69	137.14	150.26	163.39	176.51	189.63	202.76
210	59.05	72.51	85.96	99.41	112.86	126.31	139.75	153.21	166.67	180.12	193.57	207.02
220	60.04	73.82	87.60	101.38	114.83	128.61	142.39	156.17	169.95	183.40	197.18	210.96
230	61.02	75.13	89.24	103.02	117.13	130.91	145.01	159.12	172.90	187.01	201.11	214.89
240	62.34	76.44	90.55	104.99	119.09	133.53	147.64	162.07	176.18	190.29	204.72	218.80
250	63.32	77.76	92.19	106.63	121.39	135.83	150.25	164.70	179.13	193.60	208.33	222.77
260	64.30	79.07	93.83	108.60	123.36	138.12	152.88	167.65	182.41	197.18	211.94	226.71
270	65.29	80.38	95.47	110.24	125.33	140.42	155.51	170.60	185.37	200.48	215.55	230.64
280	66.27	81.69	96.78	112.20	127.30	142.72	158.14	173.23	188.65	203.74	219.16	234.25
290	67.26	83.00	98.42	113.84	129.59	145.01	160.43	176.19	191.60	207.02	222.44	238.19
300	68.24	84.32	100.07	115.81	131.56	147.31	163.06	178.81	194.55	210.30	226.05	241.80

Allowable difference in site index - 30

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COASTAL DOUGLAS-FIR SITE TABLE

SITE INDEX TABLE — HT IN FEET

BH AGE	40	50	60	70	80	90	100	110	120	130	140	150	160	170
30	32.15	39.04	45.93	52.49	59.38	66.27	73.16	79.72	86.61	93.50	100.07	106.96	113.84	120.41
40	39.37	47.90	56.43	64.96	73.49	82.02	90.55	99.08	107.61	116.14	124.67	133.20	141.40	149.93
50	44.95	55.12	64.96	75.13	84.97	95.14	104.99	114.83	125.00	134.84	145.01	154.86	155.03	174.87
60	49.54	60.70	71.85	83.33	94.49	105.64	116.80	128.28	139.44	150.92	162.07	173.56	185.04	196.19
70	53.48	65.62	77.76	90.22	102.36	114.83	126.97	139.44	151.90	164.37	176.84	189.63	202.10	214.89
80	56.76	69.55	82.68	95.80	108.92	122.37	135.83	148.95	162.40	176.18	189.63	203.41	217.19	230.97
90	59.38	73.16	86.94	100.72	114.83	128.94	143.04	157.48	171.92	186.35	200.79	215.55	230.31	245.08
100	61.68	76.12	90.55	104.99	119.75	134.51	149.61	164.70	179.79	195.21	210.63	226.05	241.80	257.55
110	63.65	78.74	93.50	108.92	124.34	139.76	155.18	171.26	187.01	203.08	219.16	235.56	252.30	269.03
120	65.29	80.71	96.46	112.20	127.95	144.03	160.43	176.84	193.24	209.97	227.03	244.09	261.48	278.87
130	66.93	83.00	98.75	115.16	131.56	147.97	165.03	181.76	199.15	216.53	233.92	251.97	269.68	288.06
140	68.24	84.65	101.05	117.78	134.51	151.57	168.95	186.35	204.07	222.11	240.48	258.86	277.56	296.26
150	69.55	86.29	103.02	120.08	137.47	154.06	172.57	190.62	208.66	227.36	246.06	265.09	284.45	303.80
160	70.87	87.60	104.66	122.05	139.76	157.81	175.85	194.23	212.93	231.95	251.31	270.67	290.68	310.69
170	71.85	88.91	106.30	124.02	142.06	160.43	178.81	197.83	216.86	238.22	255.90	275.92	296.26	316.93
180	72.51	90.22	107.94	125.98	144.36	162.73	181.76	200.79	220.47	240.16	260.50	280.84	301.84	322.83
190	73.49	91.21	109.25	127.62	146.00	165.03	184.38	203.74	223.75	243.77	264.43	285.43	306.76	328.41
200	74.15	92.19	110.56	128.94	147.97	166.99	186.68	206.36	226.71	247.37	268.04	289.37	311.35	333.33
210	74.80	93.18	111.55	130.25	149.61	168.96	189.65	208.89	229.33	250.33	271.65	293.31	315.29	337.93
220	75.46	93.83	112.53	131.56	150.92	170.60	190.62	211.29	231.95	253.28	274.93	296.92	319.22	342.19
230	76.12	94.82	113.52	132.87	152.23	172.24	192.58	213.25	234.25	255.90	277.89	300.20	323.18	346.46
240	76.77	95.47	114.50	133.86	153.54	173.88	194.23	215.22	236.55	258.53	280.51	303.48	326.44	350.06
250	77.43	96.13	115.16	134.84	154.86	175.20	195.87	217.19	238.84	260.83	283.14	306.43	329.72	353.67
260	77.76	96.78	116.14	135.83	155.84	176 51	197.51	218.83	240.81	263.12	285.76	309.05	332.68	356.95
270	78.08	97.44	116.80	136.81	157.15	177.82	198.82	220.47	242.45	265.09	288.06	311.68	335.63	360.24
280	78.74	97.77	117.45	137.47	158.14	178.81	200.13	222.11	244.09	267.06	290.35	313.98	338.25	363.19
290	79.07	98.42	118.11	138.45	158.79	180.12	201.44	223.42	245.73	268.70	292.32	316.27	340.88	366.14
300	79.40	98.75	118.77	139.11	159.76	181.10	202.76	224.74	247 37	270.67	294.29	318.57	343.17	368.77

Allowable difference in site index-20

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Western Hemlock - 263 and Mountain Hemlock - 264[1]

Upper Limits of Site Indices—Dominant and Codominant Trees

Use for all true firs except white and grand fir and for all cedars except incense

Age (years)	Site index																	
	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210
	Total height in feet																	
10	2	4	4	4	5	6	6	6	8	8	8	9	10	10	11	12	12	
20	9	12	14	16	18	20	22	24	26	28	30	32	34	37	39	41	43	
30	17	21	24	28	32	36	40	44	47	51	55	59	63	66	70	74	78	
40	23	28	34	39	44	50	54	60	64	70	76	81	86	92	96	102	107	
50	29	35	42	48	55	61	67	74	79	86	93	99	106	112	118	124	132	
60	34	41	49	56	64	73	79	86	93	101	108	116	123	131	138	145	153	
70	37	45	53	61	70	78	86	94	100	111	119	127	135	144	152	160	171	
80	39	48	57	66	75	84	93	102	110	119	128	137	147	156	164	175	182	
90	42	52	61	71	80	90	99	108	118	128	137	146	156	165	173	183	194	
100	45	55	65	75	83	93	105	115	123	135	145	155	165	175	185	195	205	
110	47	58	68	79	89	99	110	120	131	141	152	162	173	183	194	204	215	
120	49	60	70	81	92	103	113	124	135	146	156	167	178	189	199	210	221	
130	50	61	72	83	94	105	116	127	138	149	160	171	183	194	205	216	227	
140	51	62	74	85	96	107	118	129	141	152	163	174	186	197	208	220	231	
150	52	63	75	86	97	109	120	131	143	154	165	177	189	200	212	223	235	
160	52	64	76	87	59	110	121	133	145	156	168	179	191	203	214	226	238	
180	53	65	77	89	101	112	125	136	148	159	171	183	195	207	219	230	242	
200	54	66	78	90	102	113	125	138	150	161	173	186	197	210	221	233	245	
220	54	66	78	90	103	114	127	139	151	163	175	187	199	211	224	235	247	
240	55	67	79	91	103	115	127	139	152	164	176	188	200	212	225	237	249	
260	55	67	79	91	104	116	128	140	152	164	176	188	200	213	225	238	250	
280	55	67	80	92	104	116	128	140	153	165	177	189	201	214	226	239	251	
300	55	67	80	92	104	117	129	141	153	166	178	190	202	215	227	240	252	
Cubic-foot site class	7	6	5		4		3		2			1						

[1]Source: Barnes, George H., 1961. USDA Technical Bulletin 1273. PNW Experiment Station.

SITE INDEX	CMAI FOR WESTERN HEMLOCK 100 YR. TABLE (TSHE) 990-BARNES	CMAI FOR PONDEROSA PINE 100 YR. TABLE (PIPO) 600-MEYER	CMAI FOR DOUGLAS-FIR WEST SIDE 50 YR. (PSME) 795-KING
	Cu. Ft/Ac./Yr.		
40		30	
41		31	
42		31	
43		32	
44		33	
45		34	
46		34	
47		35	
48		36	
49		37	
50		38	
51		38	
52		39	
53		40	
54		41	
55		42	
56		42	
57		43	
58		44	
59		45	
60		46	
61		47	
62		48	
63		49	
64		50	
65		50	
66		51	
67		52	

SITE INDEX	CMAI FOR WESTERN HEMLOCK 100 YR. TABLE (TSHE) 990-BARNES	CMAI FOR PONDEROSA PINE 100 YR. TABLE (PIPO) 600-MEYER	CMAI FOR DOUGLAS-FIR WEST SIDE 50 YR. (PSME) 795-KING
68		53	
69		54	
70		55	79
71		56	81
72		58	83
73		59	84
74		60	86
75		62	89
76		63	91
77		64	93
78		65	94
79		67	96
80		69	98
81		70	100
82		72	102
83		74	103
84		75	105
85		77	107
86		78	109
87		80	111
88		82	113
89		83	114
90		85	116
91		87	118
92		88	120
93		90	122
94		92	123
95		94	125
96		96	128

SITE INDEX	CMAI FOR WESTERN HEMLOCK 100 YR. TABLE (TSHE) 990-BARNES	CMAI FOR PONDEROSA PINE 100 YR. TABLE (PIPO) 600-MEYER	CMAI FOR DOUGLAS-FIR WEST SIDE 50 YR. (PSME) 795-KING
97		97	130
98		99	132
99		101	134
100	142	102	136
101	144	104	138
102	145	106	140
103	147	108	141
104	149	110	143
105	151	112	145
106	153	114	147
107	154	116	149
108	156	118	150
109	158	120	152
110	160	122	154
111	162	124	156
112	164	126	158
113	166	128	160
114	168	130	162
115	170	132	163
116	172	134	167
117	174	136	169
118	176	137	171
119	178	139	173
120	180	141	175
121	182	144	176
122	184	146	178
123	186	149	180
124	188	151	182
125	190	154	184

SITE INDEX	CMAI FOR WESTERN HEMLOCK 100 YR. TABLE (TSHE) 990-BARNES	CMAI FOR PONDEROSA PINE 100 YR. TABLE (PIPO) 600-MEYER	CMAI FOR DOUGLAS-FIR WEST SIDE 50 YR. (PSME) 795-KING
126	192	156	186
127	194	159	188
128	196	161	190
129	198	164	191
130	200	166	193
131	202	168	195
132	204	170	197
133	205	173	199
134	207	175	201
135	209	177	203
136	211	179	207
137	213	181	209
138	214	183	210
139	216	185	212
140	218	188	214
141	220	190	216
142	222	192	218
143	224	194	220
144	226	197	222
145	228	199	224
146	230	201	226
147	232	203	227
148	234	205	229
149	236	208	231
150	238	210	233
151	240	212	235
152	241	215	237
153	243	217	239
154	244	220	241

SITE INDEX	CMAI FOR WESTERN HEMLOCK 100 YR. TABLE (TSHE) 990-BARNES	CMAI FOR PONDEROSA PINE 100 YR. TABLE (PIPO) 600-MEYER	CMAI FOR DOUGLAS-FIR WEST SIDE 50 YR. (PSME) 795-KING
155	246	222	243
156	248	224	244
157	249	227	246
158	251	229	248
159	252	232	250
160	254	234	252
161	256		
162	258		
163	260		
164	262		
165	264		
166	266		
167	268		
168	270		
169	272		
170	274		
171	276		
172	278		
173	279		
174	281		
175	283		
176	285		
177	287		
178	288		
179	290		
180	292		
181	294		
182	296		
183	297		

SITE INDEX	CMAI FOR WESTERN HEMLOCK 100 YR. TABLE (TSHE) 990-BARNES	CMAI FOR PONDEROSA PINE 100 YR. TABLE (PIPO) 600-MEYER	CMAI FOR DOUGLAS-FIR WEST SIDE 50 YR. (PSME) 795-KING
184	299		
185	301		
186	303		
187	305		
188	306		
189	308		
190	310		
191	312		
192	314		
193	316		
194	318		
195	320		
196	322		
197	324		
198	326		
199	328		
200	330		
201	332		
202	333		
203	335		
204	336		
205	338		
206	340		
207	341		
208	343		
209	344		
210	346		

ATTACHMENT DIVIDER

FAX Transmittal

Harry A. Taylor-Land Use Consultant
Phone: (541) 935-6202 FAX-(541) 935-4918

Date: 5-26-04

TO: Jerry Kendall Fax: 682-5947
Lane County Land Management

Pages: 11

Urgent ___ For Review ___ Please comment ___

Message:

Re: Grant PA-01.5875
Final Applicant's Rebuttal
Hard copy to follow.

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Harry A. Taylor
Land Use Consultant
88275 Territorial Road
PO Box 1420
Veneta ,OR 97487
Office (541) 935-6202 E-mail:hatland@worldnet.att.net FAX (541)-935-4918

May 26, 2004

Lane County Board of Commissioners
125 East 8th Avenue
Eugene, OR 97401

Re: Applicant's Final Rebuttal - Grant Plan Amendment/Zone Change PA 01-5875

Dear Commissioners,

The applicant, David Grant, is a talented farmer and long time resident of Walterville. He is not a land developer. Mr. Grant has attempted for 28 years at great effort and expense to convert a piece of historically unused land into a marginal filbert orchard. Simply put, you can't farm rock. He requests the county zone the property commensurate with its capability and character.

Attached to this letter are additional responses from the applicant's legal counsel, Larry Thorp, professional forester, Bob Booth, and Certified Professional Soil Scientist/Classifier, Gary Kitzrow to arguments made in opposition by the Goal One Coalition and 1000 Friends of Oregon. We believe the applicant's record, site specific evidence and case law all support a conclusion the property should be designated nonresource land and zoned RR-5.

The Goal One Coalition argues the property consists of high value soils and should remain zone Exclusive Farm Use. Goal One relies on the published soil survey, general capability tables and reports of questionable relevance from other counties as providing a basis for denial by the Board. We disagree. Historically, many Lane County land use applications have relied on and decisions have been made from findings that resulted from site specific evidence. Goal One offers no similar level of evidence.

The applicant has used qualified experts in each field of study to conduct site specific soils, farm and forest analyses to demonstrate the property does not have either an agricultural or forest capability because of the extremely rocky soils and a very low water holding capacity. These conditions have been verified by extensive field tests and are absolutely critical in concluding the property has no resource capability. The Board is directed to eight pages of color property photographs, attached to the applicant's application as Exhibit "C," that clearly depict the rocky condition of the property.

The soil scientist's reports and testimony, resulting from an Order I survey, indicates a majority of the property is properly classified as Class V soil due to the above noted site conditions. The Soil Survey of Lane County Area, Oregon, ("the soil survey") page7, describes the general published soil map can be used to compare the suitability of large areas for general land uses. "Because of its small scale, the map is not suitable (emphasis provided) for planning the management of a farm or field or for selecting a site for a road or building or other structure. The soils in any one map unit differ from place to place in slope, depth, drainage, and other characteristics that affect management." The soil survey is based on an Order III level of detail and is general in nature and how it is intended to be used. It is not appropriate for the Board to make a decision based on general information where other more specific analyses have been made.

Goal One argues the property has a forest capability based on a NRCS rating of 182 cubic feet per acre per year for the predominant Sifton soil unit. Craig Ziegler, NRCS State Forester, was consulted regarding the accuracy of this rating given the applicant's soil scientist and forester both determined the property has a 0 rating. Mr. Ziegler indicated the 182 rating resulted from only two test plots conducted in Linn County. Sifton soil in Lane County was not tested to determine forest capability. Mr. Booth's attached supplemental forest report provides more details on this point. However, in summary, Mr. Ziegler indicated it was more appropriate to use the forester's and soil scientist's opinions resulting from site specific information in determining the forest capability.

The state and county land use planning process is intended to identify different land uses, plan, zone and protect those uses. Information relied on during the countywide program is rarely site specific. The applicant has met his burden of proof and submitted credible information to support the request. The proposed plan amendment and zone change is consistent with the character and physical limitations of the land.

If the applicant is at fault it's due to repeatedly trying to make something out of nothing. The site's well documented conditions clearly show this is not resource land. Now, if denied, he will be penalized simply for trying. If the Board doubts the property conditions present, we request you conduct a site view to see for yourself. We request the Board approve this request based on the information submitted.

Respectfully Submitted,

Harry A. Taylor

Harry A. Taylor

THORP
PURDY
JEWETT &
URNESS &
WILKINSON, P.C.
ATTORNEYS AT LAW

Lawrence E. Thorp

1011 HARLOW ROAD, SUITE 300
SPRINGFIELD, OREGON 97477
PHONE: (541) 747-3354
FAX: (541) 747-3367

E-MAIL ADDRESS:
lthorp@thorp-purdy.com

MARVIN O. SANDERS (1912-1977)
JACK B. LIVELY (1923-1979)
JILL E. GOLDEN (1951-1991)

May 26, 2004

Lane County Board of Commissioners

Re: Grant Zoning Change
PA 01-5875

Dear Commissioners:

Goal One Coalition and 1000 Friends of Oregon argue for various reasons that the Board should reject the application for a post-acknowledgement plan amendment and rezoning from agriculture to rural residential. They argue extensively that the land must be zoned exclusively for farm use, even though neither denies that the land is unsuitable for agricultural purposes.

1. **High Value Farmland.** They argue that the land must be treated as high value farmland under OAR 660-033-0020(8)(c)(B). That provision defines high value farmland as property that is "prime, unique, Class I or II" or be a combination of "tracts composed predominately of the following soils in Class III or IV". One of the "following soils" is Sifton, which is the predominant soil on the applicant's property. Goal One argues that since the default classification for Sifton soil is (according to Goal One) Class IIIs, it must be treated as high value farmland. The argument begs the question.

Goal One acknowledges that OAR 660-033-0030(6) allows the introduction of more detailed information to establish that any soil should be designated a different classification than the default classification assigned by NRCS. That is precisely what the applicant has done. The applicant's soil scientist, whose qualifications are unchallenged,[1] stated that under the North American Soils Identification System the Sifton soil on the applicant's property should be designated Class V. He included with his July 7, 2003 opinion letter a table published by the Natural Resources Conservation Service (at the time known as the Soil Conservation Service) indicating characteristics which should be considered in establishing soil classifications. He also included excerpts from the NRCS procedures handbook indicating, among other things, that "soils with such physical limitations that common field crops can be cultivated and harvested only by hand are not placed in Classes I, II, III, and IV." The uncontroverted evidence provided by the applicant is that the soil cannot be mechanically cultivated because of its rocky nature. Consequently, since the Sifton soil on the applicant's property is appropriately designated Class

[1] Goal One and 1000 Friends of Oregon have submitted no information on the credentials of the individuals arguing that the applicant's soil scientist's analysis is wrong. There is no reason to believe they have any soils expertise, let alone enough to make a credible challenge to the work of the applicant's well qualified soil scientist.

V rather than either Class III or IV, the definition of high value farmland has not been satisfied and the zoning should not be restricted using the high value farmland standard.

2. **Suitability for Farm Use:** Goal One also argues that the property should be treated as agricultural land under OAR 660-033-0020(1)(a), not because it is composed predominately of Class I through IV soils, but because it is "suitable for farm use" or necessary "to permit farm practices to be undertaken on adjacent or nearby agricultural lands." Alternatively, Goal One argues that the property is part of a "farm unit" under OAR 660-033-0020(1)(b).

The applicant addressed the farm unit argument extensively in the memorandum submitted to the planning commission from the applicant's legal counsel. As pointed out in that memorandum, the courts have taken the position that whether a parcel is part of a "farm unit" depends on all the surrounding facts and circumstances. The applicant submitted extensive evidence that the parcel is no more a necessary or integral part of a farm unit than any other piece of property in the surrounding area including the developed two-acre subdivision across the road The applicant introduced unchallenged evidence that it is standard practice in the Willamette Valley for farmers not to live on, adjacent to or near the property which they farm. Farmers frequently live and maintain their equipment on lands miles away from the fields they work. The fact that applicant's residence is on the subject property does not make the property "necessary" to farm the adjacent cropland. And the land clearly is not "suitable" for farm use.

Goal One cites *Meyer v. Lord* 38 Or App 59 (1978) which holds that common ownership of adjacent parcels means they are part of a farm unit. However, that case was not only decided before the farm unit rule was adopted by the Department of Land Conservation and Development, but in fact is directly contrary to subsequent case law interpreting the current farm unit regulation. The Court of Appeals subsequently stated that "common ownership is not determinative" of whether two parcels are part of a farm unit under the regulation. See *DLCD v. Curry County* 132 Or App 393, 398 (1995).

Goal One also blindly cites *Riggs v. Douglas County* and *DLCD v. Curry County* as authority on issued which they fail to address. Those cases were discussed extensively in the applicant's memorandum to the Planning Commission, and Goal One failed to respond to the analysis made by the applicant regarding those cases. The Commissioners should refer to the analysis of those cases in the applicant's submittal to the Planning Commission.

3. **Lot Line Adjustment.** The applicant owns two adjacent parcels of real property. A lot line adjustment was done between the parcels in 1998. Goal One argues that because the County has no statutory procedure for review and approval of lot line adjustments, that the "subject property remains as it was prior to" the lot line adjustment. Goal One cites no authority to support its statement and applicant knows of none.

Assuming for the sake of argument that the lot line adjustment was invalid, Goal One fails to state what impact, if any, that has on the application for a plan amendment and zone change. Although the proposed plan amendment and zone change follows the relocated property boundary there is nothing in the Lane Code or state law which requires that a plan designation or

zone change follow a legal lot boundary. There is simply no legal relationship between the lot line adjustment and the request for a plan amendment and zone change.

Goal One argues that ORS 92.190(3) requires the County to adopt some type of procedure for review and approval of property line adjustments as a land use decision. Goal One relies on the word "approved" in that provision. That word was added in the 1991 amendments. However, that section as approved by the legislature reads somewhat differently than the way it was codified in the Oregon Revised Statutes by the Legislative Counsel's office. As adopted the provision read as follows:

> Section 20. ORS 92.190 is amended to read:
>
> 92.190. (1) The replat of a portion of a recorded [*subdivision*] plat shall not act to vacate any recorded covenants or restrictions.
>
> (2) Nothing in ORS 92.180 to 91.190 is intended to prevent the operation of vacation actions by statutes in ORS chapter 271 or 368.
>
> (3) The governing body of a city or county may use procedures other than replatting procedures in ORS 92.180 and 92.185 to adjust [*lot*] **property** lines as described in ORS 92.010 [*(7)*] **(11)**, as long as those procedures include the recording [*or other central filing of the final lot line adjustment.*], **with the county clerk, of conveyances conforming to the approved property line adjustment as surveyed in accordance with ORS 92.060 (7). A property line adjustment deed shall contain the names of the parties, the description of the adjusted line, references to original recorded documents and signatures of all parties with proper acknowledgment. (Ch. 772 §24 Oregon Laws, 1991).**

The word "approved" refers to the survey requirements contained in ORS 92.060(7) and is not a requirement that the County adopt a procedure to approve a lot line adjustment.[2]

Goal One cites two cases which it argues hold that a lot line adjustment is a land use decision. Neither case stands for that proposition. The first case, *Warf v. Coos County* 42 Or LUBA 84 (2002), involved action by Coos County relating to a lot line adjustment.[3] The County treated a lot line adjustment as a ministerial action, and not a land use decision. On appeal, the petitioner argued that the County's action constituted a land use decision reviewable by LUBA. The property owner argued that the challenged action was ministerial and did not involve the exercise of significant, actual or legal discretion, and that as a result it was not a land use decision within LUBA's jurisdiction. LUBA stated:

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[2] It is also noteworthy that the county recently declined to establish such a procedure in response to a recommendation from the Planning Commission. Goal One was fully aware of and involved in that process and is accusing the Board of Commissioners of violating the law by not taking Goal One's suggestion that the Board adopt a land use procedure relating to lot line adjustments.

[3] Coos County had adopted a provision identical to ORS 92.190 (3).

> Accordingly, for purposes of this decision, *we will assume without deciding* that petitioners are correct that the challenged decision required the exercise of discretion and for that reason is accurately viewed as a "permit" decision as that term is defined in ORS 215.402(4). (emphasis added)

LUBA refused to rule that a lot line adjustment procedure must be adopted by the county or that a lot line adjustment was a land use decision reviewable by LUBA. In fact, the only thing which LUBA decided in the *Warf* case was that the petitioners failed to appeal within the time allowed and dismissed the appeal.

The other case cited by Goal One is *Hammer v. Clackamas County*, ___ Or App___, 2003 decided by the Oregon Court of Appeals on November 13, 2003 (A122139). Goal One's reliance on *Hammer* misses the mark even further than its reliance on *Warf*. *Hammer* did not even involve a lot line adjustment. Rather, it involved a "major partition plat". It simply has no bearing on Goal One's argument that the lot line adjustment was not properly completed and that the applicant is somehow required to do a "replat." A replat is a separate and unrelated procedure and only applies to a "recorded plat" (see ORS 92.185).

Goal One has cited no authority for its position that the lot line adjustment undertaken by the applicant in 1998 was a land use decision, was improper, or has any bearing whatsoever on the proposed post-acknowledgment plan amendment and zone change requested by the applicant.

If you would like to discuss my comments, please contact me.

Respectfully submitted,

THORP, PURDY, JEWETT,
URNESS & WILKINSON, P.C.

Laurence E. Thorp

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Booth Consulting, Inc.
Bob Booth, State Certified General Appraiser,
Consulting Forester

Timber Cruises & Appraisals
Real Estate Appraisals
Value Consultations
Forest Management Planning
Log Marketing
Land Use Planning

May 26, 2004
TaylrGrantLt3.04

Mr. Harry Taylor
Land Use Consultant
P.O. Box 1420
Veneta, OR 97487

RE: Supplemental Forest Report, Grant Plan Amendment/Zone Change PA 01-5875

Dear Mr. Taylor,

This letter supplements my prior forest reports and addresses two issues raised by the Goal One Coalition in opposition to the Grant application

In conclusion, it is my opinion, as a professional forester with 40 years of experience and based on a site specific evaluation of the property, that the subject property has 0 forest capability nor will it support other commercial tree species.

A. **Forest Productivity:** Goal One argues that the applicant did not follow prescribed methods to determine forest capability. As required by the Oregon Department of Forestry (ODF), the accepted methodology for assessing forest capability was utilized. The accepted procedure involves searching for dominant and co-dominant site trees to measure the growth rate of existing trees, evaluating adjacent and nearby forested parcels in the immediate vicinity with similar site characteristics and using accepted tables to determine the site index. This information is then considered along with published soils information and all applicable site factors to arrive at an opinion of the property's forest capability.

First, there were no suitable trees present. Second, there are no forested parcels adjacent to, or within the subject's vicinity with the same soil types to verify site plot measurements As a result, there are no commercial forest trees of any species available to measure forest site. The only indicators of a growing site on the subject is an orchard of Filberts that were planted and cultured by the applicant and property owner. The Filberts indicate that the site is a poor growing site. Nearly all of the trees have stagnated and are not even close to production at levels Filbert growers experience in other parts of the McKenzie River Drainage. Some of the Filbert trees

3227 Queens East, Eugene, Oregon 97401 • (541) 342-6069 • Fax (541) 334 0293

have died. Filbert trees are not a commercial forest crop, but, in the absence of any other site indicator, they are a good indicator of the incapability of this soil to produce trees.

A level 1 soil capability study was performed by Gary A. Kitzrow, Certified Professional Soil Scientist/Soil Classifier. Mr. Kitzrow's findings conclude the soils on the subject have a lower water retention capacity than was reported by the Soil Survey of Lane County Area, Oregon. A finding from my investigation of the subject was included in a prior report and simply re-stated is: the Sifton gravelly loam (123), Oxley gravelly silt loam (100), and Cloquato (29) soils have an overall forest capability rating of "0" My conclusion of forest site capability is based upon the fact the soils are incapable of providing adequate water for long enough periods of time for establishment and culture of a commercial forest crop to the end of a commercial rotation.

In the absence of site trees and trees on adjacent lands coupled with site specific soils findings that are contrary to the published forest ratings, the Natural Resources Conservation Service (NRCS) and ODF were consulted. Both Craig Ziegler, NRCS State Forester, and Joe Misek, ODF, indicated in telephone conversations to you and me that it is entirely appropriate and proper to consider site specific information when the standard methodology can not be used or there is a conflict with the general ratings given to each soil type.

The Soil Survey, Woodland Management and Productivity, p. 159, Notes soils vary in their ability to produce trees. "Depth, fertility, texture, and the available water capacity influence tree growth. Elevation, aspect, soils, and climate determine the kinds of trees that can be expected to grow on any site." Mr. Ziegler further stated there could likely be differences between the Sifton rating established on only two test plots used in Linn County to establish the 182 cubic foot per acre per year forest rating and the subject property due to the different location, climate, rainfall, elevation, and geology from the Walterville site. No Sifton sites were tested by the NRCS in Lane County.

B. **Other Commercial Tree Species.** Goal One argues the applicant did not address the subject's ability to support growth of other commercial tree species. Oregon White Oak, Oregon Ash, Big Leaf Maple, Alder, Ponderosa Pine, KMX, Western Hemlock, and Western Red Cedar were suggested as alternative species to Douglas Fir and Ponderosa Pine.

Oregon White Oak, Black Oak, Oregon Ash, Black Cottonwood, Red Alder, Big Leaf Maple, Grand Fir, and the Cedars are more tolerant of high water availability than Ponderosa Pine and Douglas Fir and typically do well where water content in the soil is too high for Ponderosa Pine or Douglas Fir. I have discovered these species growing on sites that are inundated for days at a time in some areas of the Willamette Valley. Within the past two years, many of the stands of Grand (or White) Firs within the Willamette Valley have been experiencing high mortality because of drought stress. These species require a higher availability of water than Douglas Fir. The soils on the subject, as described by the Soil Survey of Lane County Area, Oregon, are droughty. This drought characteristic severely limits availability of water for growth of Douglas Fir or Ponderosa Pine. It is reasonable to conclude that, if Douglas Fir or Ponderosa Pine cannot become established because of insufficient water, species like White and Black Oak, Ash, Alder,

Cottonwood, the True Firs, and Cedar that require more water could not survive there either.

Western Hemlock grows on soils having a higher acidic content than Douglas Fir or Ponderosa Pine. Hemlock also grows better at higher elevations than the subject if soil nutrients and proper acidic content are present. It is usually growing in areas having a relatively high level of available water, similar to the Cedars. For these reasons, it is not suited for growing on soils that are droughty, or at low elevations having lower soil ph like the subject.

KMX: It is assumed by some that because a hybrid species is developed and can grow rapidly, it is "better" than non-hybrid species. Fast growth does not equate to good wood quality or commercial viability. KMX is an experimental hybrid and has not been proven to be part of the commercial industry matrix of wood choices. There must be a demand for the wood, and as of this date, I know of no operations that are trying to acquire KMX wood. KMX hybrid tree species are not in common use in Oregon. I have not witnessed establishment of plantations of KMX in any of the areas I have worked within in the past 40 years. There may be a few small experimental plantations of KMX in Oregon, but I am not aware of a single plantation that is producing commercial wood. I am also not aware of anyone that is seriously considering establishment of a KMX plantation.

Based upon the Soil Survey of Lane County Area, Oregon, soil descriptions for the Oxley gravely silty loam (#100), and the Siflon gravelly loam (#123), and Cloquato (29) soils, findings of Mr. Kitzrow in regard to water availability for these soils, and growing characteristics of tree species typically found within the Willamette Valley, it is my opinion that these soils are not suited for establishment or propagation of any of the commercial tree species.

SUMMARY.
An accepted Oregon Department of Forestry methodology was used for evaluating the forest site on the subject. Two qualified professionals independently examined the subject and came to similar conclusions about the subjects soil capability.

None of the subject soil area has the capability of producing a commercial forest crop to rotation age. All of the tree species other than Douglas Fir require a higher level of water availability and /or different soil chemistry for survival and growth Experimental hybrid species should not be relied upon as a standard for soil capability. Nearly all forest soil capability standards for native non-hybrid species required considerable study before capability standards could be developed.

Sincerely,

BOOTH CONSULTING, INC.

By: Robert W Booth
Robert W Booth, President

Growing Soils
ARCPACS Certified Professional Soil Classifiers & Scientists

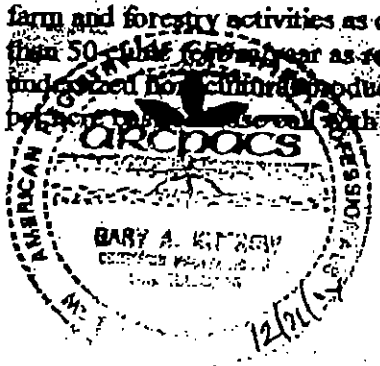
244 Apple Blossom Ln. Roseburg, OR 97470
Phone: 541.673.4846 Fax: 541.673.0373
email: mailvize@MCSI.net

May 25, 2004

Harry Taylor
RE: David Grant Rezoning application

Below is a summation of various points pertaining to Mr. Grants' application. Our soil survey was completed at an Order I detail. This indicates a confidence interval of ½ to 1 acre. The USDA-NRCS soil map for the subject parcel is Order III with a reliability and resolution down to 5 acres. These standards are in accordance with NCSS (National Cooperative Soil Survey guidelines) nationwide. Our site specific inventory used exactly the same protocols as Order III inventories in all fifty states. We have mapped over 2 million acres in 6 states using the same methodologies and I personally have published 5 Soil Survey Reports for the USDA- forest Service in 4 states. In these reports we detailed forest capability on over 350 soil series within these areas. Additionally, I was a principal Soil Scientist for the USDA-NRCS in Southern Oregon where I personally mapped nearly 500,000 acres to NCSS standards as well as Orders I-III detail.

This site specific soil inventory yielded over 2/3s of the parcel to be Capability ClassV, Sifton soils. As stated in our testimony prior, Sifton series is simply a label. There is quite a large range of characteristics which make up this series. The current subject parcel shows the rocky end of the "range of characteristics" described by the NRCS for this series. The extremely rocky nature of these Sifton Variant soils leads to the Classification as Class V. Class V soils are non-resource by all NRCS standards since major rock volumes at or near the earths' surface preclude cultivation and forestry treatments. Without this unusual high rock volume this soil would be droughty but plowable and harvestable using standard techniques. The high rock contents preclude such practices. Oxley and Cloquato soils are excellent farm and forest soils but unfortunately comprise only 1/3 of this parcel.

In regards to forestry, this Class V site is also not able to be commercially forested. Rocks on the surface preclude normal stocking levels of all species including D. fir, G. fir and P. pine. The site index is exceedingly low for such soils not principally due to growth once established, but conversely it is not practical to get enough trees established to grow to harvest. With the high rock at the surface (on the 2/3 Class V soils), less than 100 stems per acre will survive and grow to maturity. This is less than 1/5 of the necessary stocking required for greater than 50 cubic feet per acre per year. There is now way this lot will produce over 50 cubic feet due to the rock. Seedling mortality will be high and the breakage and defect rate will also likely be extreme. The site index cited for Sifton was on non-rocky soils in Linn County which are Class II and I soils not ClassV. Without doubt this parcel is non-resource and generally unsuited for farm and forestry activities as defined by both the DLCD and NRCS. This site will produce less than 50 cubic feet/year as required by the ODF as well as the obvious past history of spindly, undersized forest products which have a long history of producing substandard income on a [illegible] soil with questions.

Gary A. Kitzrow, M.S. CPSC/CPSS