

SUPPLEMENTAL MATERIAL

SUPPLEMENTAL MEMO

W.4.C

DATE OF MEMO: September 13, 2005

TO: Board of County Commissioners

FROM: Jerry Kendall^{JK}/Land Management Division

RE: Ordinance No. PA 1224/In the Matter of Amending the Rural Comprehensive Plan to Redesignate Land From "Forest Land" to "Nonresource", Rezone That Land From "F-2/Impacted Forest Lands" to "RR-5/Rural Residential"; and Adopting Savings and Severability Clauses (File PA 04-5738; Hagen)

Scheduled board date for second reading/deliberation, September 14, 2005

This memo is to relay two documents that were received since the Board packet was generated.

The first item concerns objections raised by a nearby landowner, Jim Hecker. These objections were received on September 8th and 12th.

The second item consists of the Applicant's (Mr. Hagen) responses to those objections, received on September 13. In addition, Mr. Hagen enclosed one letter of support, plus signatures in support of his proposal.

Staff will comment on the objections at the hearing. However, they do not change the original staff recommendation for approval of this Plan Amendment/Rezone.

Please call me at x4057 if you have any questions or comments.

Attachments:

1. Submittal from Mr. Hecker—39pp.
2. Response from Applicant (Mr. Hagen)—6pp.

SEP 13 2005

from
Applicant
W. HAGEN

Response to Mr. Hecker's objections to PA 04-5738, dated September 14, 2005

According to the Lane County Development Guide No. 2.2 – 7.i. the Board hearing is usually held “on the record”, meaning that the Board evaluates and takes testimony on issues and facts brought forth during the Planning Commission's hearing.

Mr. Hecker's earlier objections of October 27, 2004 were properly addressed and refuted under III B of the staff report to the full satisfaction of the Planning Commission. The new objections of Mr. Hecker do not specify or address any errors in the record and hence are not admissible and should be rejected on that basis.

In addition, all the “new” inadmissible objections raised by Hecker have been addressed more than sufficiently in the record. It appears that Hecker did not properly read the documentation; otherwise he could not claim that Coho Salmon are in the area of this property. This property has no streams, wetlands or other habitat for any fish. It is sandy, high and dry even during heavy rainfall. I have not seen a single Coho Salmon wiggling around on my property, desperately trying to find some water.

In contrast Mr. Hecker owns two 0.21 acre parcels with leaky septic right on Mercer Lake that are a danger to Coho Salmon. Hecker's hypocritical and frivolous claims should be rejected also on that basis.

Hecker has an opinion about the NonResource designation but provides no proof which land use laws are violated. Contrary to his false claim, the NonResource designation does exist in Lane Code 16.400(8)c)gg. The 1983 Working Paper (WP) serves as a guide to ensure compliance with state law and regulations and was used in my application as primary guidance, designated WP-1 through WP-8. In addition, the rezoning requirements WP-a) through WP-e) were addressed on page 6 through 8 and compliance with Planning Goals 1 through 19 on page 9 and 10 of my application. The Zone Change Criteria LC 16.252 was addressed on page 11 and additional Goal 4 considerations were provided in my Supplemental Information (SI).

Hecker's concerns were all addressed in this massive documentation that included the staff report to the full satisfaction of the Planning Commission and DLCD. Hecker simply ignored all this information and makes unsubstantiated claims based on outdated data and misleading fabrications. I have difficulty in responding to such perversion.

Hecker ignored the extensive data in the record about Forest productivity. He used outdated and faulty Soil Interpretation Records from 1984 to 1986 that mention in general terms some potential productivity site indices but no productivity values in cf/ac/yr as he claimed. These flawed ratings were superseded by the updated Lane County Soil Ratings for Forestry and Agriculture of August 20, 1997. These improved ratings were used by the Forestry consultant Ward North West, Inc. in Exhibit E of my application and refined in Exhibit F.

— 6 pp.

The false accounting of Mr. Hecker quoting an unsubstantiated 150 cf/ac/yr for Douglas Fir on 21 G Bullards-Ferrello soil is twice as high as the 76 cf/ac/yr found in the attached 1997 ratings that were reviewed by Mr. Hecker's employer NRCS. He certainly should have been aware of the 1997 ratings, especially since they were also referenced in my application.

To supplement the productivity estimates actual measurements were taken that were reported in great detail in my application under WP 1 on page 2 and 3 with Exhibits H-1 through H-4. The results were confirmed by an ODF forester (Exhibit H-5) concluding that the productivity is well below 20 cf/ac/yr and hence the land is not viable forest land. In addition reforestation was deemed futile by a State Forester (Exhibit G) and is in clear contradiction with Hecker's perverted demand for a Forest Management Plan. The ignorance and arrogance of Mr. Hecker is beyond description and his claims are without merit.

However, the pinnacle of hypocrisy and double standard lies in Hecker's claim 2B. The property is not in the Clear Lake Watershed Protection Area (CLWP). OAR 340-071-0400 does not specify a Mercer Lake watershed or a specific Protection Area. These labels seem to be fabricated by Hecker for deception. OAR 340-071-0400 requires that: "The lot and proposed system complies with all the rules in effect at the time the site is approved or the permit is issued". Hecker's concern about 14 new septics on 71 acres is dishonest in light of the dense development in the adjoining area with similar soils and slopes. Each household produces about 10 lb N / yr that allows 5.8 septics per acre within the DEQ limit of 58 lb N / yr per acre or over 400 septics on 71 acres. Hecker's permeation arguments are also deceptive and incorrect. The issue of the septic systems was adequately explained in the staff report HIB based on the assessment made by the head of Environmental Health.

In contrast, Hecker's divided a 0.42 acre parcel into two lots with two septics right at Mercer Lake – see PA 02-5871. Their minute lots are on the same 94 E Netarts fine sand as most of my land. If I cannot have a septic on my remote 5 acre parcels, according to Hecker's phony claims, then they certainly should not be allowed to have leaky septics on 0.21 acre lots right at the lake.

Hecker's concern about recreation and scenic corridor has been addressed in WP-5. There is no public recreation dune land to the South in the Clear Lake and Collard Lake watershed at all, and definitely not a large one as falsely claimed by Hecker. There is only a landlocked 40 acre parcel of BLM land that has no legal access. Trespassing to this "recreational" area has been a continuous problem, because of noisy motorbikes disturbing the peace, vandalizing property, burning boundary post set by BLM, litter etc.


While I welcome my neighbors to hike on my property, I do object to noisy motorbikes damaging fragile vegetation, presenting a potential fire danger during summer against fire regulations and raising hell. On one occasion my friend tracked a trespassing motorbike rider down to Hecker's property, where the biker had the gall to tell her to get off his property, accosted her and threatened her by circling her car with his motorbike. I would not be surprised if that person was Mr. Hecker or a relative. It certainly would fit the bill of his mentality and his objections may be nothing but an act of revenge or motivation to use my property as his playground.

There is no reason why a piece of land can not fulfill many purposes instead of being only forest or residential land. Building a few homes on a small fraction of the land on high locations with good views does not preclude growing trees on low locations where growing conditions are better. Rezoning the land from F-2 to RR-5 will not reduce access to the public but rather improves it, because I want to keep the land accessible through easements.

In contrast, Heckers have placed garden furniture into a public road (Archer Lane) beside their house in order to block access of the public to Mercer Lake. Because of their selfish and obnoxious behavior they are not well regarded in the neighborhood. They are considered environmental freaks with double standards having a leaky septic system at the lake and cutting vegetation in the riparian area in clear violation of conservation laws.

There are no justifications to waste more time on Hecker's frivolous claims and they should be soundly rejected by the Board on many grounds.

I would not respond in such a harsh manner, if legitimate concerns were raised.

A handwritten signature in black ink, appearing to read "W F Kay". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Lane County Soil Ratings for Forestry and Agriculture

The Lane County Land Management Division, with technical assistance from Lane Council of Governments, compiled this data to assist the public in preparing land use applications. The Natural Resources Conservation Service (NRCS) reviewed the data and methodology.

Map Symbol	Lane County Soil Map Unit	Douglas Fir Site Index	Cu. Ft./ Acre/ Year	Agricultural Capability Class	High Value Farmland
01A	Abiqua silty clay loam, 0 - 3% slopes	135	203	1	X
01B	Abiqua silty clay loam, 3 - 5% slopes	135	203	2	X
02E	Astoria silt loam, 5 - 30% slopes	130	193	6	
03E	Astoria Variant silt loam, 3 - 30% slopes	none		6	
03G	Astoria Variant silt loam, 30 - 60% slopes	none		6	
04G	Atring-Rock outcrop complex, 30 - 60% slopes	***	81	6	
05	Awbrig silty clay loam	none		4	X
06	Awbrig-Urban land complex	none		4	
07B	Bandon sandy loam, 0 - 7% slopes	105	145	3	
07C	Bandon sandy loam, 7 - 12% slopes	105	145	3	
07F	Bandon sandy loam, 12 - 50% slopes	105	145	6	
08	Bashaw clay	none		4	X
09	Bashaw-Urban land complex	none		4	
10	Beaches	none		8	
11C	Bellpine silty clay loam, 3 - 12% slopes	115	163	3	X
11D	Bellpine silty clay loam, 12 - 20% slopes	115	163	3	X
11E	Bellpine silty clay loam, 20 - 30% slopes	115	163	4	X
11F	Bellpine silty clay loam, 30 - 50% slopes	115	163	6	
12E	Bellpine cobbly silty clay loam, 2 - 30% slopes	115	163	4	
13F	Blachly clay loam, 30 - 50% slopes	119	173	6	
13G	Blachly clay loam, 50 - 70% slopes	119	173	7	
14E	Blachly silty clay loam, 3 - 30% slopes	125	184	6	
14F	Blachly silty clay loam, 30 - 50% slopes	125	184	6	
15E	Blachly-McCully clay loam, 3 - 30% slopes	***	172	6	
16D	Bohannon gravelly loam, 3 - 25% slopes	118	171	6	
16F	Bohannon gravelly loam, 25 - 50% slopes	118	171	6	
16H	Bohannon gravelly loam, 50 - 90% slopes	118	171	7	
17	Brallier muck, drained	none		4	
18	Brallier Variant muck	none		5	
19	Brenner silty clay loam	none		3	X
20B	Briedwell cobbly loam, 0 - 7% slopes	103	141	3	X
21B	Bullards-Ferrello loams, 0 - 7% slopes	***	84	3	
21C	Bullards-Ferrello loams, 7 - 12% slopes	***	84	3	
21E	Bullards-Ferrello loams, 12 - 30% slopes	***	76	4	
21G	Bullards-Ferrello loams, 30 - 60% slopes	***	76	6	

September 11, 2005

Peter and Joseen Coots
88336 Collard Lake Road
Florence, Oregon
97439
541-997-0620

Jerry Kendall
Land Management Division
125 East 8th Avenue
Eugene, Oregon
97401

CC: William F Hagen
88643 Collard Lake Road
Florence, Oregon
97439

Re: PA 04-5738

Dear Mr. Kendall:

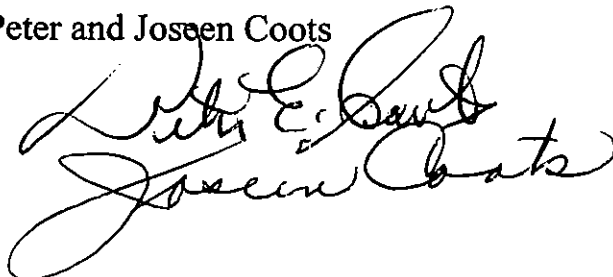
My wife and I would like to comment on the proposed zoning change for the property owned by Mr. William Hagen as outlined in PA 04-56738.

We support the requested change from F-2/RCP Impacted Forest Land to RR-5/RCP. This property consists largely of sandy soil that is totally unsuitable for production of commercial forest products. We feel that it's best use would be to provide for future development of rural home sites.

Mr. Hagen has a long standing policy of allowing access to the public at their own risk for recreational hiking and is well regarded in this community.

Sincerely,

Peter and Joseen Coots

A handwritten signature in cursive script, appearing to read "Peter and Joseen Coots", written in black ink.

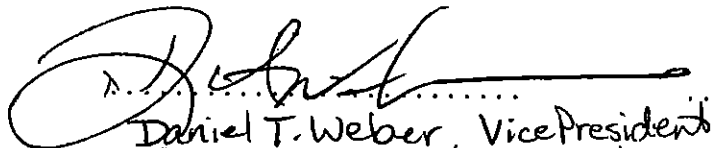
REZONING OF WILHELM F. HAGEN's 71 ACRE PARCEL

Wilhelm Hagen informed us about the rezoning over four years ago and again in spring 2004.

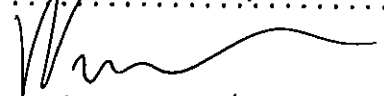
We, the undersigned neighbors, have no objections to the rezoning of his parcel from Impacted Forest Lands (F-2) to Non-resource Land (RR-5) located on Map 17-12-36.3 tax lot 1702 and support his application PA 04-5738 favorably.

Name:


Address:


Daniel T. Weber, Vice President
of EDJ, Inc. as general partner
of Weber Properties, L.P., Owner

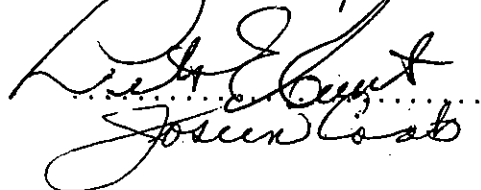
5854 Collard Lake Road, Florence, OR


Norbert Hagan

3033 Paseo Estribo, Carlsbad, CA 92009


Marten Shepherd

26895 Petzold Rd., Eugene, OR 97402


Joseph Cost

8837C Collard Lake Road
Florence, OR

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REC'D SEP 08 2005

September 14, 2005

Jim Hecker
88864 Archer Lane
Florence, OR 97439
(541) 752-4125

Jerry Kendall
Land Management Division
Public Works Department
125 E. 8th Ave.
Eugene, OR 97401
(541) 682-4057

RE: NOT IN FAVOR - PA 04-5738

Dear Jerry,

I am NOT IN FAVOR for two reasons:

1. The "NonResource" designation does not exist in the Lane Code, the Lane County Comprehensive Plan or the Statewide Planning Goals.

In my opinion, a Planning Action (PA) that uses a "NonResource" designation to convert F2-Forest Zone to RR-Rural Residential outside the land use laws we have in place is very questionable.

2. This property (17-12-36-30, Tax Lot 1702) does not satisfy the "NonResource" designation criteria.

I do not believe the "NonResource" designation has any merit. However, I found only one County reference, "Information Sheet - Requirements for NonResource Land Designation" which further references a Lane County, "Working Paper: Marginal Land" (1983). This paper outlines the five minimum criteria required to designate Forest land to "NonResource" land.

This property does not satisfy the "NonResource" criteria for the following reasons:

- A. Property is existing productive forest land. The criteria require that the soils of this property must produce less than 50 cf/ac/yr according to the USDA, NRCS, OR-1 "Soil Interpretations Record". The following table lists all soils in this tract with its corresponding forest Site Index and productivity in cf/ac/yr according to the OR-1 forms:

- 39A -

<u>Map Unit</u>	<u>Soil Name</u>	<u>Site Index</u>	<u>Productivity cf/ac/yr</u>	<u>Acres</u>	<u>Dominant Tree</u>
21G	Bullards-Ferrelo 12-30%	144	150	2	Douglas Fir
44	Dune Land	None	None	15	None
94C	Netarts, 3-12%	80	58	6	Douglas Fir
94E	Netarts, 12-30%	80	58	35	Douglas Fir
131G	Waldport, 30-70%	92	73	13	Lodgepole Pine

All of the forest soils (80%) on this property have a productivity rating of greater than 50 cf/ac/yr. The Dune Land soil (20%) is not rated for forestry.

Secondly, it should be noted that this is a complex forest site - the Waldport soil is rated for Lodgepole Pine and the Bullards-Ferrelo and Netarts soils are rated for Douglas Fir. These two tree species should be treated as two separate forest management units.

Finally, this property needs a Forest Management Plan. The recommended forest management practices may include Tree Planting, Brush Management and Precommercial Thinning.

B. Property is needed for watershed protection. This property is located in the Mercer Lake watershed. DEQ has included the Mercer Lake watershed in the "North Florence Dunal Aquifer Protection Area" (OAR 340-071-0400). This means that special consideration is given to septic systems installed in this area. For example, the soils on this property have extreme permeability rates in excess of 20" per hour. This means that if this property were flooded with 2 feet of polluted water, it all would penetrate the soil in one hour. Then, it would only take a few hours to reach the aquifer. The effect of fourteen new septic systems has not been considered.

Secondly, this property is a permanent forest cover that benefits the groundwater quality of the watershed.

Finally, this property is zoned Forest Land and is protected under the, "Statewide Planning Goals & Guidelines, Goal 4, Forest Land" and the "Lane Code, Forest Zone".

C. Property is needed for wildlife habitat and recreation. The USDF&W have listed the following animals, fish and plants as Endangered Species in the area of this property:

Bald Eagle
Coho Salmon

Secondly, this property has approximately 20 acres of dune land and is adjacent to many acres of public recreation dune land to the South in the Clear Lake and Collard Lake watershed.

D. Property is subject to extreme soil conditions. There are two extreme soil conditions on this property:

Extreme Slopes – The majority of this property is over 30% slope. This severely limits the installation of dwellings, septic absorption fields and road cut banks.

Extreme Permeability – The majority of this property has a permeability of over 20 inches/hour which threatens the water quality in the groundwater aquifer.

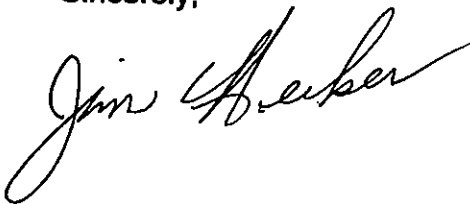
E. Property is located in a scenic corridor and adjacent to a sand dune recreation area.

Scenic Corridor – This property is situated on the Southwest ridge of the watershed, overlooking Mercer Lake. This property provides significant scenic corridor benefits when viewed from the East, North and West.

Recreation Area – This property is adjacent to a large sand dune recreation area to the South in the Clear Lake and Collard Lake watershed.

In summary, I am NOT IN FAVOR of this planning action because this property is important forest land and it does not qualify as "NonResource" land.

Sincerely,



**Cc: Dave Perry, LCDC
Kent Howe, Planning Director
Lane County Commissioners**

Attachments:

**"Information Sheet – Requirements for NonResource Land Designation",
Lane County.**

Soils Map and OR-1, USDA NRCS

"North Florence Dunal Aquifer Area", OAR 340-071-0400.

**"Oregon's Statewide Planning Goals & Guidelines, Goal 4: Forest Lands",
OAR 660-015-0000(4).**

Federally Listed Endangered Species for this property. USF&WS.

SOIL SURVEY OF LANE COUNTY AREA, OREGON

Wilhelm Hagen



SOIL SURVEY OF LANE COUNTY AREA, OREGON

Wilhelm Hagen

MAP LEGEND

- Soil Map Units
- Cities
- Detailed Countries
- Interstate Highways
- Roads
- Rails
- Water
- Hydrography
- Oceans

MAP INFORMATION

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>

Coordinate System: UTM Zone 10

Soil Survey Area: Lane County Area, Oregon
Spatial Version of Data: 2
Soil Map Compilation Scale: 1:20000

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

INFORMATION SHEET

Requirements for NonResource Land Designation

Most land within Lane County falls into one or another Resource category --- Agricultural, Forestry, Mineral & Aggregate, and the like -- and its appropriately designated and zoned. However, certain lands lack the characteristics for a Resource designation, and thus are eligible for consideration as "NonResource Land". This Information Sheet explains the County's NonResource Land designation procedure and outlines submittal requirements.

NonResource Lands may be identified on the Rural Comprehensive Plan according to the terms of the following policy:

Where lands are not farm or forest lands, they may be designated on the plan diagram as rural residential or as parks and recreation, provided:

- a. *Detailed and factual documentation has been presented, indicating that the subject lands are not farm and forest lands as defined by Statewide Planning Goals #3 and #4.*
- b. *An exception to any of the Statewide Planning Goals is not required.*
- c. *Small isolated non-resource tracts surrounded by farm and forest lands shall be discouraged if such non-resource designation would create compatibility problems.*
- d. *The Rural Residential Designation would be consistent with other Comprehensive Plan Policies. (Land Use Planning Policy #16)*

In brief, the applicant must demonstrate that the land being proposed for NonResource designation is, by virtue of character or situation, not subject to the restrictions of one or more LCDC Goals (in particular, those oriented to resource protection), and the designation would not cause compatibility or consistency problems with neighboring properties or the policy directives of the Plan itself.

Because of the firm LCDC Goal mandate, this demonstration must be quite comprehensive in nature. The County's Working Paper: Marginal Land (1983) contains some specific data requirements:

Land may be designated as NON-RESOURCE/NON-EXCEPTION LAND upon submission of satisfactory factual information to support the following findings:

1. *The land is not composed of existing or potential forest lands which are suitable for the commercial production of wood fiber products.*
2. *The land is not needed for watershed protection.*
3. *Designation of the land as NON-RESOURCE/NON-EXCEPTION LAND will not adversely effect management of the land for big game range or other wildlife, fish and waterfowl habitat.*

4. No extreme soil or climatic conditions exist to the extent to require maintenance of existing vegetative cover to a degree not provided by the NON-RESOURCE/NON-EXCEPTION designation.
5. The land is not located in an agricultural or urban area and providing needed urban ^{within 1/4 mile} buffers, wind breaks, wildlife and fisheries habitat, livestock habitat, scenic corridors or recreational uses.
6. The land is predominantly Class V-VIII soils as identified in the Soil Capability Classification system of the U.S. Soil Conservation Service.
7. The land is not suitable for farm use or grazing taking into account soil fertility, climatic conditions, existing and future availability of water for farm irrigation, existing land use patterns, technological and energy inputs required, or accepted farming practices.
8. -Designation of the land as AGRICULTURAL LAND is not necessary to permit farm practices to be undertaken on adjacent or nearby lands.

These requirements are oriented toward LCDC Goals 3 and 4. To fully document NonResource status, all applicable Goals must be addressed. Particular attention must be given Goals 5, 6, 7 and 11. Lane County has adopted policies for each of the LCDC Goals, and these policies will provide the County with a means of evaluating whether or not a NonResource proposal is appropriate in a given area.

Information on Statewide Planning Goal mandates -- and the County's response to them -- is contained in the Rural Comprehensive Plan's Policy and Working Paper elements. For example, the Working Paper: Flora & Fauna (1982) and its 1983 Addendum contain information on Goal 5 resources -- habitat, wetlands, big game range, fisheries, riparian vegetation, etc. It is the responsibility of the applicant to address these issues.

Upon approval of a NonResource application, a decision must be made about the level of permissible development. Another adopted County policy deals with that issue:

Residential densities for non-resource land shall be one residence per five or ten acres and shall be determined through consistency with other plan policies and the following criteria:

- a. Existing development pattern and density of any adjacent committed areas;
- b. Subsurface sewage disposal suitability;
- c. Domestic water supply availability;
- d. Access;
- e. Public service;
- f. Lack of natural hazards;
- g. Effect on resource lands. (Land Use Planning Policy #17)

Since some of the above overlap with Goal-related requirements stated earlier, it is suggested that the applicant deal with the issue of density in the initial application.

Technical information submitted to justify a NonResource Land application will be reviewed and verified by County staff and, if appropriate, staff of other resource-management agencies. Information on file as County Plan background (i.e., Working Papers) can be utilized by applicants on a pre-arranged basis. In some cases, it may be helpful for the applicant to obtain the services of qualified specialists to develop technical information.

NonResource Land applications will be evaluated on a case-by-case basis, although the Planning Commissions and/or Board of County Commissioners may review them individually or as a group. Those applications which were received as CPR "Change Requests" prior to March 2, 1984, will be processed pursuant to the County's Land Use Planning Policy #20 (Goal 2) adopted that date (see Information Sheet concerning Change Requests). All others will be considered pursuant to the County's Plan Amendment (16.400 Lane Code) procedure.

Submittal Requirements:

Because it is anticipated that justification for NonResource designation will take a variety of forms, and to allow flexibility in the applicant's technical documentation, no specific application form has been prepared for NonResource applications. The criteria and guidelines of this Information Sheet should be followed as closely as practicable. The application itself can take the form of a narrative addressing each item, with technical documentation attached or referenced as needed.

However, NonResource Land requests must conform to the County's established system of processing land use change applications. Accordingly, the following items must accompany the actual NonResource Land application:

1. A General Land Use Application form must be completed and submitted.*
2. A Plan Amendment Application must be completed and submitted for all NonResource Land applications which were not the subject of a CPR "Change Request" received by the County prior to March 2, 1984.*
3. A response to the "Conformity with Statewide Planning Goals" statement must be completed and submitted.* Note that the information requested here will probably overlap that required in the NonResource Land application.
4. Supplementary information may be submitted at the applicant's option.

All information submitted is subject to verification by the County. Should corrected or additional information be required, it is the applicant's responsibility to provide it. Failure to provide complete or accurate information will invalidate the application. County staff can provide limited assistance to applicants prior to and during the review process. Upon receipt of a complete submittal, the application will be scheduled before one of the County's two Planning Commissions, legal notice requirements complied with, a staff analysis prepared for Commission use, and the matter brought before the Commission.

As a final note, prospective applicants may wish to review information now on file at the county for approved "NonResource/NonExceptions," to obtain a sensing of the level of detail expected of the applications.

Forms and explanatory information are available upon request.

NONRESOURCE LAND SUBMITTAL COMPLETEDNESS CHECK

ALL CRITERIA NOTED BELOW MUST BE ADDRESSED

ADEQUACY OF DOCUMENTATION

CRITERION
ADDRESSED?
Yes No

COMMENTS

CRITERIA AND INFORMATION REQUIREMENTS

A. GOAL THREE (AGRICULTURE)

1. Property is not predominantly Class I-IV soils:
 - (a) Soils map
 - (b) Interpretive report (OR-1's)
2. Property is not suitable for farm use or grazing:
 - (a) Soils data addressing:
 - (1) fertility
 - (2) climatic conditions
 - (3) erosion/slope
 - (4) other relevant features
 - (b) Irrigation water supply
 - (c) Existing land use patterns in area
 - (d) Technological/energy inputs necessary for farming
 - (e) Accepted farming practices
3. Impact on adjacent agricultural lands
 - (a) Report/map of area land use
4. Property cannot perform as viable economic farming unit in term of capability of producing cash crop sufficient to cover operating expenses and retire indebtedness of the land: *(Not Goal item -- optional for help)*
 - (a) Agricultural management report,

B. GOAL FOUR (FOREST) *(New)*

1. Property is not existing or potential forest land:
 - (a) Soils map
 - (b) Interpretive report (OR-1's):
 - (1) "commercial" level of production (50 cfsc)
 - (2) climatic conditions
 - (3) existing forest cover
2. Property is not needed for watershed protection
 - (a) Topographic map
 - (b) Interpretive report outlining
 - (1) waterways and drainage patterns
 - (2) use of property's water for nonproperty supply
 - (3) on-site sources (springs, waterways, water rights, groundwater)
 - (4) sedimentation/contamination hazards
 - (5) DEQ constraints or special designations, if any
3. Property is not needed for wildlife/fisheries habitat or recreation:
 - (a) Report/map on big game range and other inventoried wildlife species (e.g., sensitive bird habitat)
 - (1) mitigating measures if conflict exists
 - (2) application of Goal 5 rule
 - (3) wildlife management plan acceptable to ODFW
 - (4) identification of class 1 waterways
 - (b) Report/map on recreational character of area
 - (1) recreational sites/facilities on or near property
 - (2) scenic area or feature identified in Goal 5 report
4. Property is not subject to extreme soil or climatic conditions:
 - (a) Soils data addressing:
 - (1) erosion potential
 - (2) slope/topographical constraints
 - (3) geological character of property or area
 - (f) Mitigating measures, if needed
5. Property is not located in agricultural or urban area and providing:
 - urban buffers
 - wind breaks
 - wildlife/fisheries habitat (see #3 above)
 - livestock habitat (see Goal 3, #2 above)
 - scenic corridors (see #3 above)
 - recreational uses (see #3 above)
 - (a) If property is located in agricultural or urban area, appropriate elements to be addressed in report/maps

SOIL INTERPRETATIONS RECORD

216 BULLARDS-FERRELO LOAMS, 30 TO 60 PERCENT SLOPES
FERRELO PART

THE FERRELO SERIES CONSISTS OF WELL DRAINED SOILS FORMED IN SANDY MATERIALS ON MARINE TERRACES. ELEVATION IS 40 TO 400 FEET. THE SURFACE LAYER IS DARK BROWN LOAM ABOUT 10 INCHES THICK. THE SUBSOIL IS DARK BROWN LOAM ABOUT 37 IN. THICK CONTAINING THIN DISCONTINUOUS REDDISH BROWN VERY HARD LENSES. BELOW 47 INCHES IT IS BROWN FINE SANDY LOAM OVER WEAKLY CEMENTED FINE SAND. MEAN ANNUAL PRECIP. IS 65 TO 80 INCHES. THE MEAN ANNUAL AIR TEMP IS 51 TO 53 DEGREES F. THE FROST FREE PERIOD IS 200 TO 250 DAYS.

ESTIMATED SOIL PROPERTIES

DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHTO	FRACTURE PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLASTICITY INDEX	
				(PCT)	4	10	40			200
0-10 IL		ML	A-4	0	100	100	85-98	60-75	-	NP
10-47 IL	FSL, SIL	ML, SM	A-4	0	100	100	65-98	35-75	-	NP
47-60 LFS	FSL, FS	SM	A-2, A-4	0	100	90-100	60-85	20-50	-	NP

DEPTH (IN.)	CLAY (PCT)	MOIST BULK DENSITY (G/CM3)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (PH)	SALINITY (MMHOS/CM)	SHRINKAGE POTENTIAL (LOW)	EROSION FACTORS (K, T)	WIND EROSION GROUP (4)	ORGANIC MATTER (PCT)	CORROSION (STEEL, CONCRETE)
0-10	10-18	1.10-1.30	0.6-2.0	0.11-0.18	5.1-6.0	-	LOW	24, 5	4	5-8	LOW, MODERATE
10-47	10-18	1.20-1.40	2.0-6.0	0.12-0.17	5.6-6.0	-	LOW	24, 5	4	5-8	LOW, MODERATE
47-60	2-10	1.40-1.60	2.0-6.0	0.08-0.13	5.6-6.0	-	LOW	24, 5	4	5-8	LOW, MODERATE

FLOODING

FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS (IN)	DEPTH (IN)	HARDNESS (IN)	INIT. (IN)	TOTAL (IN)	GRP	FROST ACTION
NONE			>6.0			-		>60				B	-

SANITARY FACILITIES

SEPTIC TANK ABSORPTION FIELDS	SEVERE-SLOPE	ROADFILL	POOR-SLOPE
SEWAGE LAGOON AREAS	SEVERE-SEEPAGE, SLOPE	SAND	IMPROBABLE-EXCESS FINES
SANITARY LANDFILL (TRENCH)	SEVERE-SEEPAGE, SLOPE	GRAVEL	IMPROBABLE-EXCESS FINES
SANITARY LANDFILL (AREA)	SEVERE-SEEPAGE, SLOPE	TOPSOIL	POOR-SLOPE
DAILY COVER FOR LANDFILL	POOR-SLOPE		

CONSTRUCTION MATERIAL

BUILDING SITE DEVELOPMENT

SHALLOW EXCAVATIONS	SEVERE-CUTBANKS CAVE, SLOPE	EMBANKMENTS DIKES AND LEVEES	SEVERE-PIPING
DWELLINGS WITHOUT BASEMENTS	SEVERE-SLOPE	EXCAVATED PONDS AQUIFER FED	SEVERE-NO WATER
DWELLINGS WITH BASEMENTS	SEVERE-SLOPE	DRAINAGE	DEEP TO WATER
SMALL COMMERCIAL BUILDINGS	SEVERE-SLOPE	IRRIGATION	SLOPE
LOCAL ROADS AND STREETS	SEVERE-SLOPE	TERRACES AND DIVERSIONS	SLOPE
LANS, LANDSCAPING AND GOLF FAIRWAYS	SEVERE-SLOPE	GRASSED WATERWAYS	SLOPE

RECREATIONAL DEVELOPMENT

CAMP AREAS	SEVERE-SLOPE	PLAYGROUNDS	SEVERE-SLOPE
PICNIC AREAS	SEVERE-SLOPE	PATHS AND TRAILS	SEVERE-SLOPE

CAPABILITY AND YIELDS PER ACRE OF CROPS AND PASTURE (HIGH LEVEL MANAGEMENT)

CAPABILITY	PASTURE (ALU)		CROPS		CROPS		CROPS		CROPS		CROPS		CROPS	
	NI	IR	NI	IR	NI	IR	NI	IR	NI	IR	NI	IR	NI	IR
6E		6												

WOODLAND SUITABILITY

ORD	MANAGEMENT PROBLEMS				POTENTIAL PRODUCTIVITY		TREES TO PLANT	
	SYM	EROS	WIND	PLANT	COMMON TREES	SITE INDEX		
HAZARD	LIMIT	HAZARD	COMPET	DOUGLAS-FIR	SITKA SPRUCE	WESTERN HEMLOCK		
10A	SLIGHT	SLIGHT	SLIGHT	MODER.	MODER.	144	10	DOUGLAS-FIR WESTERN HEMLOCK SITKA SPRUCE

WINDBREAKS

SPECIES	IHT	SPECIES	IHT	SPECIES	IHT
DOUGLAS-FIR	20	LODGEPOLE PINE	15	WESTERN REDCEDAR	18

MILDLIFE HABITAT SUITABILITY

POTENTIAL FOR HABITAT ELEMENTS						POTENTIAL AS HABITAT FOR:					
GRAIN & SEED	GRASS & LEGUME	MILD HERB.	HARDWOOD TREES	CONIFER PLANTS	SHRUBS	WETLAND PLANTS	SHALLOW WATER	OPENLD WILDLF	WOODLD WILDLF	WETLAND WILDLF	RANGELD WILDLF
V. POOR	FAIR	GOOD	FAIR	GOOD	GOOD	V. POOR	V. POOR	FAIR	GOOD	V. POOR	-

POTENTIAL NATIVE PLANT COMMUNITY (RANGELAND OR FOREST UNDERSTORY VEGETATION)

COMMON PLANT NAME	PLANT SYMBOL (NLSPN)	PERCENTAGE COMPOSITION (DRY WEIGHT)									
LODGEPOLE PINE	PICO										
DOUGLAS-FIR	PSME										
WESTERN HEMLOCK	TSHE										
SITKA SPRUCE	PIGI										
WESTERN REDCEDAR	THPL										
PACIFIC RHODODENDRON	RMMA3										
WESTERN AZALEA	RHOC										
BRACKENFERN	PTAQ										
SALAL	GABH										

POTENTIAL PRODUCTION (LBS./AC. DRY WT):
 FAVORABLE YEARS
 NORMAL YEARS
 UNFAVORABLE YEARS

FOOTNOTES

- 1 EXCESSIVE PERMEABILITY MAY CAUSE POLLUTION OF GROUND WATER.
- 2 POORLY GRADED SANDS.
- 3 SITE INDEX IS A SUMMARY OF 5 OR MORE MEASUREMENTS ON THIS SOIL.

DUNELAND CONSISTS OF DEEP EXCESSIVELY DRAINED WIND SHIFTED SAND IN UNDULATING TO HILLY DUNES AT ELEVATIONS OF 10 TO 150 FEET. TYPICALLY, IT IS VERY LIGHT GRAY FINE SAND MANY FEET THICK. MEAN ANNUAL PRECIP. IS 60 TO 80 INCHES. MEAN ANNUAL AIR TEMP. IS 50 TO 52 DEGREES F. FROST FREE PERIOD IS 200 TO 250 DAYS. SLOPES RANGE FROM 0 TO 70 PERCENT.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHTO	PERCENT OF MATERIAL LESS >3 IN THAN 3" PASSING SIEVE NO.					LIQUID LIMIT	PLAS- TICITY	INDEX	
				(PCT)	4	10	40	200				
0-60	FB	SM, SP-SM	A-2	0	100	100	70-85	5-20	-	NP		
DEPTH (IN.)	CLAY (PCT)	MOIST BULK DENSITY (G/CM ³)	PERMEA- BILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (PH)	SALINITY (MMHOS/CM)	SHRINK- SWELL POTENTIAL LOW	EROSION FACTORS K	WIND EROD. T	ORGANIC MATTER GROUP (PCT)	CORROSIVITY STEEL HIGH	CONCRETE MODERATE
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYDIPOTENT'L
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS (IN)	DEPTH (IN)	HARDNESS (IN)	INIT. (IN)	TOTAL (IN)	
NONE			>5					60		-	-	A
SANITARY FACILITIES						CONSTRUCTION MATERIAL						
SEPTIC TANK ABSORPTION FIELDS	SEVERE-POOR FILTER, SLOPE					ROADFILL	FAIR-SLOPE					
SEWAGE LAGOON AREAS	SEVERE-SEEPAGE, SLOPE					SAND	FAIR-LIMITED SIZE RANGE					
SANITARY LANDFILL (TRENCH)	SEVERE-SEEPAGE, SLOPE					GRAVEL	IMPROBABLE-EXCESS FINES					
SANITARY LANDFILL (AREA)	SEVERE-SEEPAGE, SLOPE					TOPSOIL	POOR-TOO SANDY, SLOPE					
DAILY COVER FOR LANDFILL	POOR-TOO SANDY, SLOPE					WATER MANAGEMENT						
						POND RESERVOIR AREA	SEVERE-SEEPAGE, SLOPE					
BUILDING SITE DEVELOPMENT												
SHALLOW EXCAVATIONS	SEVERE-CUTBANKS CAVE-SLOPE					EMBANKMENTS DIKES AND LEVEES	SEVERE-SEEPAGE, SLOPE					
DWELLINGS WITHOUT BASEMENTS	SEVERE-SLOPE, UNSTABLE, BLOWING SAND					EXCAVATED PONDS AQUIFER FED	SEVERE-PIPING					
DWELLINGS WITH BASEMENTS	SEVERE-SLOPE, UNSTABLE, BLOWING SAND					DRAINAGE	VERY DEEP TO WATER					
SMALL COMMERCIAL BUILDINGS	SEVERE-SLOPE, UNSTABLE, BLOWING SAND					IRRIGATION	DROUGHTY, FAST INTAKE, SOIL BLOWING					
LOCAL ROADS AND STREETS	SEVERE-SLOPE, UNSTABLE, BLOWING SAND					TERRACES AND DIVERSIONS	SLOPE, TOO SANDY SOIL BLOWING					
LAWNS LANDSCAPING AND GOLF FAIRWAYS	SEVERE-SLOPE, UNSTABLE, BLOWING SAND					GRASSED WATERWAYS	SLOPE, DROUGHTY					

RECREATIONAL DEVELOPMENT

CAMP AREAS	SEVERE-SLOPE, TOO SANDY	PLAYGROUNDS	SEVERE-SLOPE, TOO SANDY
PICNIC AREAS	SEVERE-SLOPE, TOO SANDY, DUSTY	PATHS AND TRAILS	SEVERE-SLOPE, TOO SANDY

CAPABILITY AND YIELDS PER ACRE OF CROPS AND PASTURE (HIGH LEVEL MANAGEMENT)

CAPABILITY	IRR.	IRR.	IRR.	IRR.	IRR.	IRR.	IRR.	IRR.	IRR.	IRR.	IRR.
SE											

WOODLAND SUITABILITY

ORD	MANAGEMENT PROBLEMS					POTENTIAL PRODUCTIVITY			TREES TO PLANT
	SYNCHROB	NIEQUIP	SEEDL. HAZARD	WINDTH	PLANT HAZARD	COMMON TREES	SITE PROD. INDX	PROD. CLASS	
						NONE			

WINDBREAKS

SPECIES	INT	SPECIES	INT	SPECIES	INT	SPECIES	INT
NONE							

MILDLIFE HABITAT SUITABILITY

POTENTIAL FOR HABITAT ELEMENTS										POTENTIAL AS HABITAT FOR:					
GRAIN SEED	GRASS & LEGUME	WILD HERB	HARDW. TREE	CONIFER PLANTS	SHRUBS	WETLAND PLANTS	SHALLOW WATER	OPENLD WILDLF	WOODLD WILDLF	WETLAND WILDLF	RANGELD WILDLF	IV.	POOR	IV.	POOR

POTENTIAL NATIVE PLANT COMMUNITY (RANGELAND OR FOREST UNDERSTORY VEGETATION)

COMMON PLANT NAME	PLANT SYMBOL (NLSPN)	PERCENTAGE COMPOSITION (DRY WEIGHT)			

POTENTIAL PRODUCTION (LBS./AC. DRY WT):
 FAVORABLE YEARS
 NORMAL YEARS
 UNFAVORABLE YEARS

FOOTNOTES

SOIL INTERPRETATIONS RECORD
94C NETARTS FINE SAND, 3 TO 12 PERCENT SLOPES

NETARTS SERIES CONSISTS OF WELL DRAINED SOILS ON OLD STABILIZED DUNES. TYPICALLY THE SURFACE LAYER IS LIGHT GRAY FINE SAND 4 INCHES THICK. THE SUBSOIL IS VARIEGATED FINE SAND 41 INCHES THICK. THE SUBSTRATUM IS LIGHT YELLOWISH BROWN FINE SAND. ELEVATION IS 30 TO 300 FEET. MEAN ANNUAL PRECIP. IS 60 TO 80 INCHES. MEAN ANNUAL AIR TEMP. IS 51 TO 52 DEGREES F. FROST FREE PERIOD IS 180 TO 210 DAYS.

ESTIMATED SOIL PROPERTIES

DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHTO	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLASTICITY INDEX
				(PCT)	4	10	40		
0-4	FB	SW, SM, SS, ML, CL, OL	A-2, A-3	0	100	100	65-90	0-20	-
6-47	LFB, FB, S	SW, SM, SS, ML, CL, OL	A-2, A-3	0	100	100	65-90	0-25	-
47-60	FB	SW, SM, SS, ML, CL, OL	A-2, A-3	0	100	100	65-90	0-15	-

DEPTH (IN.)	CLAY (PCT)	MOIST DENSITY (G/CM3)	BULK DENSITY (G/CM3)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (PH)	SALINITY (MMHOS/CM)	SHRINKAGE POTENTIAL (LOW)	EROSION FACTORS (K, T)	WIND EROSION GROUP (2)	ORGANIC MATTER (PCT)	CORROSIVITY (STEEL HIGH, CONCRETE HIGH)
0-4	1-5	1.30-1.60	1.30-1.60	6.0-20	0.05-0.07	3.6-8.5	-	POTENTIAL LOW	.17	5	3-5	STEEL HIGH, CONCRETE HIGH
6-47	1-5	1.30-1.60	1.30-1.60	2.0-6.0	0.05-0.10	4.5-6.0	-	LOW	.17			
47-60	1-5	1.30-1.60	1.30-1.60	6.0-20	0.05-0.10	5.1-6.0	-	LOW	.17			

FLOODING		HIGH WATER TABLE		CEMENTED PAVEMENT		BEDROCK		SUBSIDENCE		HYDROLYTIC POTENTIAL	
FREQUENCY	DURATION (MONTHS)	DEPTH (FT)	KIND	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INITIAL (IN)	TOTAL (IN)	GRP	FROST ACTION
NONE		>6.0		-		>60		-		B	-

SANITARY FACILITIES

CONSTRUCTION MATERIAL

SEPTIC TANK ABSORPTION FIELDS	SLIGHT	ROADFILL	GOOD
SEWAGE LAGOON AREAS	SEVERE-SEEPAGE, SLOPE	SAND	PROBABLE
SANITARY LANDFILL (TRENCH)	SEVERE-SEEPAGE, TOO SANDY	GRAVEL	IMPROBABLE-TOO SANDY
SANITARY LANDFILL (AREA)	SEVERE-SEEPAGE	TOPSOIL	POOR-TOO SANDY
DAILY COVER FOR LANDFILL	POOR-SEEPAGE, TOO SANDY	WATER MANAGEMENT	
		POND RESERVOIR AREA	SEVERE-SEEPAGE
BUILDING SITE DEVELOPMENT			
SHALLOW EXCAVATIONS	SEVERE-CUTBANKS CAVE	EMBANKMENTS DIKES AND LEVEES	SEVERE-SEEPAGE, PIPING
DWELLINGS WITHOUT BASEMENTS	SLIGHT	EXCAVATED PONDS AQUIFER FED	SEVERE-NO WATER
DWELLINGS WITH BASEMENTS	SLIGHT	DRAINAGE	DEEP TO WATER
SMALL COMMERCIAL BUILDINGS	MODERATE-SLOPE	IRRIGATION	SLOPE, DROUGHTY, FAST INTAKE
LOCAL ROADS AND STREETS	SLIGHT	TERRACES AND DIVERSIONS	TOO SANDY, SOIL BLOWING
LAWS LANDSCAPING AND GOLF FAIRWAYS	MODERATE-DROUGHTY	GRASSED WATERWAYS	DROUGHTY

NETARTS FINE SAND, 3 TO 12 PERCENT SLOPES

RECREATIONAL DEVELOPMENT

CAMP AREAS	SEVERE-TOO SANDY	PLAYGROUNDS	SEVERE-SLOPE, TOO SANDY
ICNIC AREAS	SEVERE-TOO SANDY	PATHS AND TRAILS	SEVERE-TOO SANDY

CAPABILITY AND YIELDS PER ACRE OF CROPS AND PASTURE (HIGH LEVEL MANAGEMENT)

CAPA-BILITY	CROPS AND PASTURE													
	INIRR	IIRR	INIRR	IIRR	INIRR	IIRR	INIRR	IIRR	INIRR	IIRR	INIRR	IIRR	INIRR	IIRR
6E														

WOODLAND SUITABILITY

ORD	MANAGEMENT PROBLEMS					POTENTIAL PRODUCTIVITY			TREES TO PLANT			
	SYM HAZARD	EROS LIMIT	EQUIP LIMIT	SEED MORT	WIND Y	PLANT HAZARD	COMPET	COMMON TREES		SITE INDEX	PROD CLASS	
4S	BLIGHT	BLIGHT	MODER.	MODER.	MODER.	DOUGLAS-FIR	WESTERN HEMLOCK	SITKA SPRUCE	SHORE PINE	80	4	WESTERN HEMLOCK SITKA SPRUCE SHORE PINE

WINDBREAKS

SPECIES	INT	SPECIES	INT	SPECIES	INT	SPECIES	INT
NONE							

WILDLIFE HABITAT SUITABILITY

POTENTIAL FOR HABITAT ELEMENTS						POTENTIAL AS HABITAT FOR:					
GRAIN SEED	GRASS & LEGUME	WILD HERB.	HARDWOOD TREES	CONIFER PLANTS	SHRUBS	WETLAND PLANTS	SHALLOW WATER	OPEN WILDLF	WOODLAND WILDLF	METLAND WILDLF	RANGELAND WILDLF
POOR	POOR	FAIR	FAIR	FAIR	FAIR	V. POOR	V. POOR	POOR	FAIR	V. POOR	-

POTENTIAL NATIVE PLANT COMMUNITY (RANGELAND OR FOREST UNDERSTORY VEGETATION)

COMMON PLANT NAME	PLANT SYMBOL (NLSPN)	PERCENTAGE COMPOSITION (DRY WEIGHT)									

POTENTIAL PRODUCTION (LBS./AC. DRY WT):
FAVORABLE YEARS
NORMAL YEARS
UNFAVORABLE YEARS

FOOTNOTES

* SITE INDEX IS A SUMMARY OF 5 OR MORE MEASUREMENTS ON THIS SOIL.

SOIL INTERPRETATIONS RECORD

94E NETARTS FINE SAND, 12 TO 30 PERCENT SLOPES

NETARTS SERIES CONSISTS OF WELL DRAINED SOILS ON OLD STABILIZED DUNES. TYPICALLY THE SURFACE LAYER IS LIGHT GRAY FINE SAND 6 INCHES THICK. THE SUBSOIL IS VARIEGATED FINE SAND 41 INCHES THICK. THE SUBSTRATUM IS LIGHT YELLOWISH BROWN FINE SAND. ELEVATION IS 30 TO 300 FEET. MEAN ANNUAL PRECIP. IS 60 TO 90 INCHES. MEAN ANNUAL AIR TEMP. IS 51 TO 52 DEGREES F. FROST FREE PERIOD IS 180 TO 210 DAYS.

ESTIMATED SOIL PROPERTIES

DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHTO	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLASTICITY INDEX
				(PCT)	4	10	40		
0-6	IFS	US-10	A-2, A-3	0	100	100	65-80	0-20	-
6-47	IFB, FS, S	US-10, US-12, US-15	A-2, A-3	0	100	100	65-80	0-25	NP
47-60	IFB	US-10	A-2, A-3	0	100	100	65-80	0-15	NP

DEPTH (IN.)	CLAY (PCT)	MOIST DENSITY (G/CM3)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (PH)	SALINITY (MMHOS/CM)	SHRINKAGE POTENTIAL (LOW)	EROSION FACTORS (K, T, GROUP)	WIND EROSION (PCT)	ORGANIC MATTER	CORROSION (STEEL, CONCRETE)
0-6	1-5	1.30-1.60	6.0-20	0.05-0.07	3.5-5.5	-	LOW	1.17, 5, 2	3-5	-	HIGH, HIGH
6-47	1-5	1.30-1.60	2.0-6.0	0.05-0.10	4.5-6.0	-	LOW	1.17	-	-	-
47-60	1-5	1.30-1.60	6.0-20	0.05-0.10	5.1-6.0	-	LOW	1.17	-	-	-

FLOODING

FREQUENCY	DURATION (MONTHS)	HIGH WATER TABLE		CEMENTED PAN	BEDROCK	SUBSIDENCE		HYDROPHOBICITY
		DEPTH (FT)	KIND			INITIAL (IN)	TOTAL (IN)	
NONE	-	>6.0	NONE	-	>60	-	-	B

SANITARY FACILITIES

FACILITY	SEVERITY	CONSTRUCTION MATERIAL	
		ROADFILL	FAIR-SLOPE
SEPTIC TANK ABSORPTION FIELDS	SEVERE-SLOPE	ROADFILL	FAIR-SLOPE
SEWAGE LAGOON AREAS	SEVERE-SEEPAGE, SLOPE	SAND	PROBABLE
SANITARY LANDFILL (TRENCH)	SEVERE-SEEPAGE, SLOPE, TOO SANDY	GRAVEL	IMPROBABLE-TOO SANDY
SANITARY LANDFILL (AREA)	SEVERE-SEEPAGE, SLOPE	TOPSOIL	POOR-TOO SANDY, SLOPE
DAILY COVER FOR LANDFILL	POOR-SEEPAGE, TOO SANDY, SLOPE	WATER MANAGEMENT	
		POND RESERVOIR AREA	SEVERE-SEEPAGE, SLOPE

BUILDING SITE DEVELOPMENT

SITE TYPE	SEVERITY	DEVELOPMENT	
		EMBANKMENTS, DIKES AND LEVEES	SEVERE-SEEPAGE, PIPING
SHALLOW EXCAVATIONS	SEVERE-CUTBANKS, CAVE, SLOPE	EMBANKMENTS, DIKES AND LEVEES	SEVERE-SEEPAGE, PIPING
DWELLINGS WITHOUT BASEMENTS	SEVERE-SLOPE	EXCAVATED PONDS, AQUIFER FED	SEVERE-NO WATER
DWELLINGS WITH BASEMENTS	SEVERE-SLOPE	DRAINAGE	DEEP TO WATER
SMALL COMMERCIAL BUILDINGS	SEVERE-SLOPE	IRRIGATION	SLOPE, DROUGHTY, FAST INTAKE
LOCAL ROADS AND STREETS	SEVERE-SLOPE	TERRACES AND DIVERSIONS	SLOPE, TOO SANDY, SOIL BLOWING
LANING, LANDSCAPING AND GOLF FAIRMAYS	SEVERE-SLOPE	GRASSED WATERWAYS	SLOPE, DROUGHTY

E NETARTS FINE SAND, 12 TO 30 PERCENT SLOPES

RECREATIONAL DEVELOPMENT

CAMP AREAS	SEVERE-SLOPE, TOO SANDY	PLAYGROUNDS	SEVERE-SLOPE, TOO SANDY
PICNIC AREAS	SEVERE-SLOPE, TOO SANDY	PATHS AND TRAILS	SEVERE-TOO SANDY

CAPABILITY AND YIELDS PER ACRE OF CROPS AND PASTURE (HIGH LEVEL MANAGEMENT)

CAPABILITY	IRR.	IRR.	IRR.	IRR.	IRR.	IRR.	IRR.	IRR.	IRR.	IRR.	IRR.	IRR.	IRR.
6E													

WOODLAND SUITABILITY

ORD	MANAGEMENT PROBLEMS					POTENTIAL PRODUCTIVITY		TREES TO PLANT		
	SYM HAZARD	EROS LIMIT	EQUIP. PORT	SEED. Y	WIND HAZARD	PLANT COMPET	COMMON TREES		SITE INDEX	PROD CLASS
48	SLIGHT	SLIGHT	MODER.	MODER.	MODER.		DOUGLAS-FIR WESTERN HEMLOCK SITKA SPRUCE SHORE PINE	90	4	WESTERN HEMLOCK SITKA SPRUCE SHORE PINE

WINDBREAKS

SPECIES	IHT	SPECIES	IHT	SPECIES	IHT	SPECIES	IHT
NONE							

MILDLIFE HABITAT SUITABILITY

POTENTIAL FOR HABITAT ELEMENTS						POTENTIAL AS HABITAT FOR:					
GRAIN SEED	GRASS & LEGUME	WILD HERB.	HARDWOOD TREES	CONIFER PLANTS	SHRUBS	WETLAND PLANTS	SHALLOW WATER	OPENLD WILDLF	WOODLD WILDLF	WETLAND WILDLF	RANGELD WILDLF
POOR	POOR	FAIR	FAIR	FAIR	FAIR	V. POOR	V. POOR	POOR	FAIR	V. POOR	-

POTENTIAL NATIVE PLANT COMMUNITY (RANGELAND OR FOREST UNDERSTORY VEGETATION)

COMMON PLANT NAME	PLANT SYMBOL (NLSPN)	PERCENTAGE COMPOSITION (DRY WEIGHT)									

POTENTIAL PRODUCTION (LBS./AC. DRY WT):
FAVORABLE YEARS
NORMAL YEARS
UNFAVORABLE YEARS

FOOTNOTES

* SITE INDEX IS A SUMMARY OF 5 OR MORE MEASUREMENTS ON THIS SOIL.

SOIL INTERPRETATIONS RECORD

1318 MALDPORT FINE SAND, 30 TO 70 PERCENT SLOPES

THE MALDPORT SERIES CONSISTS OF DEEP EXCESSIVELY DRAINED SOILS FORMED IN DUNE SAND. THEY ARE ON UNDULATING TO HILLY STABILIZED DUNES AT ELEVATIONS OF 10 TO 150 FEET. TYPICALLY THE SURFACE LAYER IS VERY DARK GRAY AND GRAYISH BROWN FINE SAND ABOUT 5 INCHES THICK OVER YELLOWISH BROWN FINE SAND ABOUT 18 INCHES THICK. THE SUBSTRATUM IS FINE SAND MANY FEET THICK. MEAN ANNUAL PRECIP. IS 60 TO 80 INCHES. MEAN ANNUAL AIR TEMPERATURE IS 50 TO 52 DEGREES F. AND THE FROST-FREE PERIOD IS 200 TO 250 DAYS.

ESTIMATED SOIL PROPERTIES															
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHTO	FRACT. >3 IN. (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS- TICITY INDEX					
					4	10	40	200			15-25	15-20			
0-5	FB	SM	A-2	0	100	100	70-80	15-25	-	NP					
5-60	FB	SM	A-2	0	100	100	70-80	15-25	-	NP					
DEPTH (IN.)	CLAY (PCT)	MOIST DENSITY	BULK DENSITY	PERMEA- BILITY	AVAILABLE WATER CAPACITY	SOIL REACTION	SALINITY (MHOS/CH)	SHRINK- SWELL POTENTIAL	EROSION FACTORS	WIND EROD. GROUP	ORGANIC MATTER (PCT)	CORROSION			
												STEEL	CONCRETE		
0-5	1-5	1.30-1.60	(G/CM3)	(IN/HR)	(IN/IN)	(PH)	-	LOW	K	T	GROUP	(PCT)	STEEL HIGH	CONCRETE HIGH	
5-60	1-5	1.30-1.60		>20	0.05-0.07	5.1-6.5	-	LOW	.17	6	1	3-8			
FLOODING				HIGH WATER TABLE				CEMENTED PAN		BEDROCK		SUBSIDENCE		HYDRO- POTENTIAL	
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS (IN)	DEPTH (IN)	HARDNESS (IN)	INIT. (IN)	TOTAL (IN)	GRP	FROST ACTION		
NONE			>6.0				-		>60			A			
SANITARY FACILITIES				CONSTRUCTION MATERIAL											
SEPTIC TANK ABSORPTION FIELDS	SEVERE-POOR FILTER, SLOPE			ROADFILL				POOR-SLOPE							
SEWAGE LAGOON AREAS	SEVERE-BEEPAGE, SLOPE			SAND				IMPROBABLE-EXCESS FINES							
SANITARY LANDFILL (TRENCH)	SEVERE-BEEPAGE, SLOPE, TOO SANDY			GRAVEL				IMPROBABLE-EXCESS FINES							
SANITARY LANDFILL (AREA)	SEVERE-BEEPAGE, SLOPE			TOPSOIL				POOR-TOO SANDY, SLOPE							
DAILY COVER FOR LANDFILL	POOR-TOO SANDY, SLOPE			POND RESERVOIR AREA				MATER MANAGEMENT SEVERE-BEEPAGE, SLOPE							
BUILDING SITE DEVELOPMENT															
SHALLOW EXCAVATIONS	SEVERE-CUTBANKS CAVE, SLOPE			EMBANKMENTS DIKES AND LEVEES				SEVERE-BEEPAGE, PIPING							
DWELLINGS WITHOUT BASEMENTS	SEVERE-SLOPE			EXCAVATED PONDS AQUIFER FED				SEVERE-NO WATER							
DWELLINGS WITH BASEMENTS	SEVERE-SLOPE			DRAINAGE				DEEP TO WATER							
SMALL COMMERCIAL BUILDINGS	SEVERE-SLOPE			IRRIGATION				DROUGHTY, FAST INTAKE, SOIL BLOWING							
LOCAL ROADS AND STREETS	SEVERE-SLOPE			TERRACES AND DIVERSIONS				SLOPE, TOO SANDY, SOIL BLOWING							
LAWNS LANDSCAPING AND GOLF FAIRWAYS	SEVERE-SLOPE			GRASSED WATERWAYS				SLOPE, DROUGHTY							

RECREATIONAL DEVELOPMENT

CAMP AREAS	SEVERE-SLOPE, TOO SANDY	PLAYGROUNDS	SEVERE-SLOPE, TOO SANDY
PICNIC AREAS	SEVERE-SLOPE, TOO SANDY	PATHS AND TRAILS	SEVERE-TOO SANDY, SLOPE

CAPABILITY AND YIELDS PER ACRE OF CROPS AND PASTURE (HIGH LEVEL MANAGEMENT)

CAPABILITY														
7E														

WOODLAND SUITABILITY

ORD	MANAGEMENT PROBLEMS					POTENTIAL PRODUCTIVITY				
	SYMPTOMS HAZARD	EQUIP. LIMIT	SEEDL. MORT'Y	WINDTH HAZARD	PLANT COMPET	COMMON TREES		SITE PROD INDEX	PROD CLASS	TREES TO PLANT
	OB	MODER.	MODER.	SEVERE	SLIGHT	SLIGHT	SHORE PINE BITKA SPRUCE WESTERN HEMLOCK	192	5	SHORE PINE BITKA SPRUCE

WINDBREAKS

SPECIES	INT	SPECIES	INT	SPECIES	INT	SPECIES	INT
NONE							

WILDLIFE HABITAT SUITABILITY

POTENTIAL FOR HABITAT ELEMENTS							POTENTIAL AS HABITAT FOR:				
GRAIN & SEED	GRASS & LEGUME	WILD HERB.	HARDW TREES	CONIFER PLANTS	SHRUBS	METLAND PLANTS	SHALLOW WATER	OPENLD WILDLF	WOODLD WILDLF	METLAND WILDLF	RANGELD WILDLF
V. POOR	POOR	FAIR	POOR	FAIR	FAIR	V. POOR	V. POOR	V. POOR	POOR	V. POOR	-

POTENTIAL NATIVE PLANT COMMUNITY (RANGELAND OR FOREST UNDERSTORY VEGETATION)

COMMON PLANT NAME	PLANT	PERCENTAGE COMPOSITION (DRY WEIGHT)									
	SYMBOL (NLSFN)										
SHORE PINE	PICOC*										
BITKA SPRUCE	PIBI										
SALAL	GASH										
EVERGREEN HICKLEBERRY	VAOV2										
PACIFIC RHODODENDRON	R3MA3										
WESTERN HEMLOCK	TSHE										
DOUGLAS-FIR	PSHE										
PACIFIC MANNYRTLE	RYCA										

POTENTIAL PRODUCTION (LBS./AC. DRY WT):
FAVORABLE YEARS
NORMAL YEARS
UNFAVORABLE YEARS

FOOTNOTES

* SITE INDEX IS A SUMMARY OF 5 OR MORE MEASUREMENTS ON THIS SOIL.

Oregon's Statewide Planning Goals & Guidelines

GOAL 4: FOREST LANDS

OAR 660-015-0000(4)

To conserve forest lands by maintaining the forest land base and to protect the state's forest economy by making possible economically efficient forest practices that assure the continuous growing and harvesting of forest tree species as the leading use on forest land consistent with sound management of soil, air, water, and fish and wildlife resources and to provide for recreational opportunities and agriculture.

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.

USES

Forest operations, practices and auxiliary uses shall be allowed on forest lands subject only to such regulation of uses as are found in ORS 527.722.

Uses which may be allowed subject to standards set forth in this goal and administrative rule are: (1) uses related to and in support of forest operations; (2) uses to conserve soil, water and air quality, and to provide for fish and wildlife resources, agriculture

and recreational opportunities appropriate in a forest environment; (3) locationally dependent uses; (4) dwellings authorized by law.

IMPLEMENTATION

Comprehensive plans and zoning provide certainty to assure that forest lands will be available now and in the future for the growing and harvesting of trees. Local governments shall inventory, designate and zone forest lands. Local governments shall adopt zones which contain provisions to address the uses allowed by the goal and administrative rule and apply those zones to designated forest lands.

Zoning applied to forest land shall contain provisions which limit, to the extent permitted by ORS 527.722, uses which can have significant adverse effects on forest land, operations or practices. Such zones shall contain numeric standards for land divisions and standards for the review and siting of land uses. Such land divisions and siting standards shall be consistent with the applicable statutes, goal and administrative rule. If a county proposes a minimum lot or parcel size less than 80 acres, the minimum shall meet the requirements of ORS 527.630 and conserve values found on forest lands. Siting standards shall be designed to make allowed uses compatible with forest operations, agriculture and to conserve values found on forest lands.

Local governments authorized by ORS 215.316 may inventory, designate

and zone forest lands as marginal land, and may adopt a zone which contains provisions for those uses and land divisions authorized by law.

GUIDELINES

A. PLANNING

1. Forest lands should be inventoried so as to provide for the preservation of such lands for forest uses.
2. Plans providing for the preservation of forest lands for forest uses should consider as a major determinant the carrying capacity of the air, land and water resources of the planning area. The land conservation and development actions provided for by such plans should not exceed the carrying capacity of such resources.

B. IMPLEMENTATION

1. Before forest land is changed to another use, the productive capacity of the land in each use should be considered and evaluated.
2. Developments that are allowable under the forest lands classification should be limited to those activities for forest production and protection and other land management uses that are compatible with forest production. Forest lands should be available for recreation and other uses that do not hinder growth.
3. Forestation or reforestation should be encouraged on land suitable for such purposes, including marginal agricultural land not needed for farm use.
4. Road standards should be limited to the minimum width necessary for management and safety.
5. Highways through forest lands should be designed to minimize impact on such lands.

6. Rights-of-way should be designed so as not to preclude forest growth whenever possible.

7. Maximum utilization of utility rights-of-way should be required before permitting new ones.

8. Comprehensive plans should consider other land uses that are adjacent to forest lands so that conflicts with forest harvest and management are avoided.

(c) For saprolite derived from granite or other deposits where clay films or iron coatings are not present, a soil absorption test and the degree of consolidation may be used to predict hydraulic conductivity of the saprolite. Agents may approve sites where conductivity is sufficiently high to ensure adequate drainage. Test methods must be acceptable to the department.

(2) Construction Requirements.

(a) Standard absorption trenches must be installed where slope does not exceed 30 percent.

(A) The trenches must be installed at a minimum depth of 24 inches and a maximum depth of 30 inches below the natural soil surface and contain 12 inches of filter material and a minimum of 12 inches of native soil backfill.

(B) The trenches must be sized at a minimum of 100 linear feet per 150 gallons projected daily sewage flow.

(b) Seepage trenches must be installed where slope exceeds 30 percent but not 45 percent.

(A) Seepage trenches must be installed at a minimum depth of 30 inches and at a maximum depth of 36 inches below the natural soil surface and contain a minimum of 18 inches of filter material and 12 inches of native soil backfill.

(B) Seepage trenches must be sized at a minimum of 75 linear feet per 150 gallons of projected daily sewage flow.

Stat. Auth.: ORS 454.625 & 468.020

Stats. Implemented: ORS 454.615 & 454.775

Hist.: DEQ 9-1984, f. & ef. 5-29-84; DEQ 15-1986, f. & ef. 8-6-86; DEQ 11-2004, f. 12-22-04, cert. ef. 3-1-05

340-071-0400

Geographic Area Special Considerations.

(1) River Road -- Santa Clara Area, Lane County.

(a) Within the areas described in subsection (b) of this section, an agent may approve sites or issue construction-installation permits for new onsite wastewater treatment systems if both of the following conditions are met.

(A) The lot and proposed system comply with all rules in effect at the time the site is approved or the permit is issued.

(B) The system alone or in combination with other new sources will not contribute more than 16.7 pounds of nitrate-nitrogen per acre per year to the local groundwater. To ensure compliance, the applicant must own or control adequate land through easements or equivalent.

(b) Subsection (a) of this section applies to all of the following area generally known as River Road -- Santa Clara and defined by the boundary submitted by the Board of County Commissioners for Lane County. The area is bounded on the south by the City of Eugene, on the west by the Southern Pacific

Railroad, on the north by Beacon Drive, and on the east by the Willamette River and includes all or portions of T16S, R4W, Sections 33, 34, 35, 36; T17S, R4W, Sections 1, 2, 3, 4, 10, 11, 12, 13, 14, 15, 22, 23, 24, 25; and T17S, R1E, Sections 6, 7, 18, Willamette Meridian.

(c) Appropriate local agencies within this area may petition the commission to repeal or modify this rule. Such petition must provide reasonable evidence either that development using onsite wastewater treatment systems will not cause unacceptable degradation of groundwater quality or surface water quality or that degradation of groundwater or surface water quality will not occur as a result of the modification or repeal requested.

(d) This section does not apply to any construction-installation permit application based on a site approval issued by the agent pursuant to ORS 454.755(1)(b) before March 20, 1981.

(2) General North Florence Aquifer, North Florence Dunal Aquifer Area, Lane County.

(a) Within the area described in subsection (b) of this section, an agent may approve sites or issue construction-installation permits for new onsite systems under either of the following circumstances.

(A) The lot and proposed system comply with all rules in effect at the time the site is approved or the permit is issued.

(B) The lot and proposed system comply with paragraph (A) of this subsection except for the projected daily sewage loading rates, and the agent determines the system in combination with all other previously approved systems owned or legally controlled by the applicant will not contribute to the local groundwater more than 58 pounds of nitrate-nitrogen per year per acre owned or controlled by the applicant.

(b) Subsection (a) of this section applies to the following area designated the General North Florence Aquifer of the North Florence Dunal Area and defined by the hydrologic boundaries identified in the June 1982, 208 North Florence Dunal Aquifer Study. The area is bounded on the west by the Pacific Ocean; on the southwest and south by the Siuslaw River; on the east by the North Fork of the Siuslaw River and the ridge line at the approximate elevation of four hundred (400) feet above mean sea level directly east of Munsel Lake, Clear Lake, and Collard Lake; and on the north by Mercer Lake, Mercer Creek, Sutton Lake, and Sutton Creek and includes all or portions of T17S, R12W, Sections 27, 28, 33, 34, 35, 36, and T18S, T12W, sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 22, 23, 24, 25, 26, 27; W.M., Lane County, except that portion defined as the Clear Lake Watershed, which is the area beginning at a point known as Tank One, located in Section One, Township 18 South, Range 12 West, of the Willamette Meridian, Lane County, Oregon: run thence S. 67° 50' 51.5" E. 97.80 ft. to the True Point of Beginning; run thence S. 05° 40' 43.0" W. 1960.62 ft. to a point; run thence S. 04° 58' 45.4" E. 1301.91 ft. to a point; run thence S. 52° 44' 01.0" W. 231.21 ft. to a point; run thence S. 15° 20' 45.4" E. 774.62 ft. to a point; run thence S. 31° 44' 14.0" W. 520.89 ft. to a point; run thence S. 00° 24' 43.9" W. 834.02 ft. to a point; run thence S. 07° 49' 01.8" W. 1191.07 ft. to a point; run thence S. 50° 26' 06.3" W. 731.61 ft. to a point; run thence S. 02° 51' 10.5" W. 301.37 ft. to a point; run thence 36° 37' 58.2" W. 918.41 ft. to a point; run thence S. 47° 12' 26.3" W. 1321.86 ft. to a point; run thence S. 72° 58' 54.2" W. 498.84 ft. to a point; run thence S. 85° 44' 21.3" W. 955.64 ft. to a point; Which is N. 11° 39' 16.9" W. 5434.90 ft. from a point known as Green Two (located in Section 13 in said Township and Range); run thence N. 58° 09' 44.1" W. 1630.28 ft. to a point; run thence N. 25° 23' 10.1" W. 1978.00 ft. to a point; run thence N. 16° 34' 21.0" W. 1731.95 ft. to a point; run thence N. 06° 13' 18.0" W. 747.40 ft. to a point; run thence N. 03° 50' 32.8" E. 671.51 ft. to a point; run thence N. 59° 33' 18.9" E. 1117.02 ft. to a point; run thence N. 59° 50' 06.0" E. 1894.56 ft. to a point; run thence N. 48° 28' 40.0" E. 897.56 ft. to a

9/12/2005

To: Jerry Kendall

FAX: (541) 682-3947

From: Jim Hecker

FAX: (541) 752-5261

Jerry,

Here is copy of Tech Note No. 2 -
I've included both Lodgepole Pine &
Douglas Fir CMAJ ratings.

TECHNICAL NOTES

USDA Natural Resources Conservation Service

Portland, Oregon

Forestry No. 2 Revised

May 1995

Culmination of Mean Annual Increment for Commercial Trees of Oregon

The potential productivity of a soil is of considerable interest to land managers. The most common expression of potential productivity for forestland is site index. While it is tempting to state that a soil with a site index of 160 is more productive than a soil with a site index of 140, such a comparison can only be made if the two soils support the same tree species and the site index numbers were derived for the same species from the same equations or tables.

Site index equates to the average height dominant and co-dominant trees on a site will attain at a "base" age. Example: Site index 70 (50 year base age) means the dominant and co-dominant trees will reach an average of 70 feet in height in 50 years. Site index 120 (100 year base age) means the dominant and co-dominant trees will average 120 feet in height in 100 years.

It is important to understand that the equations used to compute site index tables may vary according to species and that individual species may have more than one set of site index tables. Any given soil may have one or several site index values depending on the number of species it supports.

To facilitate comparing the potential productivity of different soils the attached tables can be used to convert commonly used site index values to potential wood volume production. For comparative purposes culmination of mean annual increment (CMAI) was used to express one value for each site index.

The annual amount of wood fiber produced by a stand of trees changes over time as the stand matures. Very little wood fiber is produced when the trees are small but increases rapidly as the trees approach physiological maturity. Once trees reach maturity the annual growth rate begins to slow. CMAI is the highest average annual volume growth rate. This age or point may be thought of as the most efficient time to harvest as far as tree growth is concerned. Other factors, such as stumpage values, taxes, interest rates, and management objectives affect the "art" of choosing when to harvest.

Technical Note No. 2
Forestry

USDA NRCS
May 1995

In the following tables the culmination of mean annual increment (CMAI) and the age when it occurs is shown for the corresponding site index. For example, potential productivity for a site with a site index of 156 (using a 100 year base age site index table for Douglas-fir) can be expressed in the following ways:

1. A 60 year old stand will produce 165 cubic feet per acre per year at CMAI, or 9,900 (60 x 165) total cubic feet of wood fiber.
2. A 100 year old stand will produce 780 board feet (Scribner) volume per acre per year at CMAI or 78,000 (100 x 780) total board feet.

At the top of each table is listed the National Plant Symbol, the Site Index Curve number and author. (See National Register of Site Index Curves, NRCS National Forestry Manual).

Culmination of Mean Annual Increment (CMAI) and the age at which it occurs was computed using publications listed below. Metric Conversions: 1 cubic meter per hectare (CU.M./HA) = 14.3 cubic ft. per acre. USDA Misc. Pub. 225 Figure 15. Page 42.

Curve #	Nat'l Plant Symbol	Reference
030	ABCO	Schumacher, F.X. 1926. <u>Normal Yield Tables for White Fir</u> . Cal. Ag. Exp. Bull. No. 407. Table 1 and Table 2. Cu.Ft. Vol. \geq 4" DBH, total stem Bd.Ft. Vol. \geq 8" DBH, 5" top DIB, 16' logs
035	ABGR	Cochran, P.H. 1979 <u>Gross Yield for Even-aged Stands of Douglas-fir and White or Grand Fir East of the Cascades in Oregon and Washington</u> . USFS Res. Paper PNW-263. Table 6. Cu.Ft. Vol. \geq 1.0" DBH, total stem.
040	ABLA	Edminster, C.B. 1980. <u>Englemann Spruce and Subalpine Fir Yield Tables for Managed Stands</u> . USDA Soil Conservation Service West TSC Bull. No. W38-00-17. Cu.Ft. Vol. \geq 1" DBH, total stem
050	ABMA	Schumacher, F.X. 1928. <u>Yield, Stand and Volume Tables for Red Fir in California</u> . CA Ag. Exp. Bull. No. 456. Tables 1 and 2. Cu.Ft. Vol. \geq 2" DBH, total stem Bd.Ft. Vol. \geq 8" DBH, 5" top DIB, 16' logs
100	ALRU2	Worthington, M.P. 1960. <u>Normal Yield Tables for Red Alder</u> . USFS Res. Paper 36. Table 11. Cu.Ft. Vol. \geq 5.5" DBH, 4" top Bd.Ft. Vol. \geq 9.5" DBH, 8" top DIB, 8' logs
210	JUOC	Sauerwein, W.J. 1982. <u>Western Juniper Site Index Curves</u> . USDA Soil Conservation Service West TSC Tech. Note WOOD-14 and Unpublished Data.
265	LAOC	Schmidt, W.C. 1976. <u>Ecology and Silviculture of Western Larch Forests</u> . USFS Tech. Bull. 1520. Table 33. Cu.Ft. Vol. \geq 0.6" DBH, total stem

- 410 PIEN Edminster, C.B. 1980. Englemann Spruce and Subalpine Fir Yield Tables for Managed Stands. USDA Soil Conservation Service West TSC Bull. No. W38-00-17. Cu.Ft. Vol. \geq 1" DBH, total stem
- 490 PISI Meyer, W.H. 1937. Yield of Even-aged Stands of Sitka Spruce and Western Hemlock. USFS PNW Tech Bull. 544. Table 5. Cu.Ft. Vol. \geq 2.6" DBH, total stem
- 520 PICO Dahms, W.G. 1964 Gross and Net Yield Tables for Lodgepole Pine. USFS PNW Res. Paper 8. Table 6 (converted to 100 yrs. for Alexander). Cu.Ft. Vol. \geq 1.0" DBH, total stem.
- 570 PIMO3 Haig, I.T. 1932. Second Growth Yield Stand and Volume Tables for Western White Pine Type. USFS Tech. Bull. No. 323. Table 7. Cu.Ft. Vol. \geq 0.6" DBH, total stem
- 600 PIPO Meyer, W.H. 1961. Yield of Even-aged Stands of Ponderosa Pine. USFS Tech. Bull. No. 630. Tables 21, 23, 25. Cu.Ft. Vol. \geq 0.6" DBH, total stem
Scribner Vol. \geq 11.6" DBH, 8" top DIB, 16'logs
Int. 1/8" Vol. \geq 6.6" DBH, 6" top DIB, 16'logs
- 730 POTR5 Baker, F.S. 1925. Aspen in the Central Rocky Mountain Region. USDA Dept. Bull. No. 1291. Table 18. Cu.Ft. Vol. \geq 4.0" DBH, total stem.
- 765 PSMEG Cochran, P.H. 1979 Gross Yield for Even-aged Stands of Douglas-fir and White or Grand Fir East of the Cascades in Oregon and Washington. USFS Res. Paper PNW- 263. Table 5. Cu.Ft. Vol. \geq 1.0" DBH, total stem.
- 790 PSME McArdle, R.E. 1961. The Yield of Douglas-fir in the Pacific Northwest. USFS PNW Bull. No. 201. Tables 2, 3, 4. Cu.Ft. Vol. \geq 1.5" DBH, total stem
Scribner Vol. \geq 11.6" DBH, 8" top DIB, 16'logs
Int. 1/8" Vol. \geq 6.6" DBH, 5" top DIB, 16'logs
- 795 PSME Chambers, C.J. 1972. Empirical Yield Tables for the Douglas-fir Zone. WA. DNR Report No. 20R. Table 4. Cu.Ft. Vol. \geq 7" DBH, total stem
- 930 SESE3 Lindquist, J.L. 1963. Empirical Yield Tables for Young Growth Redwood. CA Ag. Ex. Sta. Bull. 796. Tables 8 and 16. Cu.Ft. Vol. \geq 4.5" DBH, 4" top DIB
Int. 1/4" Vol. \geq 10.5" DBH, 8" top DIB
- 990 TSHE Barnes, G.H. 1962. Yield of Even-aged Stands of Western Hemlock. USFS Bull. No. 1273. Tables 12, 18, 24. Cu.Ft. Vol. \geq 1.6" DBH, total stem
Scribner Vol. \geq 11.6" DBH, 8" top DIB, 16'logs
Int. 1/4" Vol. \geq 6.6" DBH, 6" top DIB, 16'logs

SITE INDEX	CHAI FOR SITKA SPRUCE 100 YR. TABLE (FISI) 490-MEYER			CHAI FOR LODGEPOLE PINE 100 YR. TABLE (FICO) 520-ALEXANDER			CHAI FOR W. WHITE PINE 100 YR. TABLE (PING3) 570-HAIG			CHAI FOR PONDROSA PINE 100 YR. TABLE (FIPO) 600-MEYER			INTER. 1/8" ED. FT. / AC. / YR. AGE			
	CU. FT. / AC. / YR.	CU. M. / HA. / YR.	TOTAL AGE	CU. FT. / AC. / YR.	CU. M. / HA. / YR.	TOTAL AGE	CU. FT. / AC. / YR.	CU. M. / HA. / YR.	TOTAL AGE	CU. FT. / AC. / YR.	CU. M. / HA. / YR.	TOTAL AGE				
27							62	4.3	100							
28							64	4.5	100							
29							65	4.5	100							
30							67	4.7	100							
31							69	4.8	100							
32							70	4.9	100							
33							72	5.0	100							
34							74	5.2	100							
35							75	5.2	100							
36							77	5.4	100							
37							79	5.5	100							
38							81	5.7	100							
39							82	5.7	100							
40							84	5.9	100	30	2.1	60	55	200	84	200
41							86	6.0	100	31	2.2	60	59	200	88	200
42							87	6.1	100	31	2.2	60	63	200	93	200
43							89	6.2	100	32	2.2	60	67	200	98	200
44							91	6.4	100	33	2.3	60	71	200	102	200
45				36	2.5	100	92	6.4	100	34	2.4	60	75	200	107	200
46				37	2.6	100	94	6.6	100	34	2.4	60	79	200	111	200
47				38	2.7	100	96	6.7	100	35	2.4	60	83	200	116	200
48				39	2.7	100	98	6.9	100	36	2.5	60	87	200	121	200
49				40	2.8	100	99	6.9	100	37	2.5	60	91	200	125	200
50							101	7.1	100	38	2.7	60	95	200	130	200
51				41	2.9	100	103	7.2	100	38	2.7	60	98	200	134	200
52				42	2.9	100	104	7.3	100	39	2.7	60	102	200	139	200
53				43	3.0	100	106	7.4	100	40	2.8	60	105	200	143	200
54				44	3.1	100	108	7.6	100	41	2.9	60	109	200	147	200
55				45	3.1	100	110	7.7	100	42	2.9	60	112	200	152	200
56				46	3.2	100	111	7.8	100	42	2.9	60	115	200	156	200
57				47	3.3	100	113	7.9	100	43	3.0	60	119	200	160	200
58				48	3.4	100	115	8.0	100	44	3.1	60	122	200	164	200
59				49	3.4	100	116	8.1	100	45	3.1	60	125	200	169	200

SITE INDEX	CHAI FOR SITKA SPRUCE 100 YR. TABLE (FISI) 490-MEYER			CHAI FOR LODGEPOLE PINE 100 YR. TABLE (PICO) 520-ALEXANDER			CHAI FOR W. WHITE PINE 100 YR. TABLE (PINOJ) 570-ERIG			CHAI FOR PONDEROSA PINE 100 YR. TABLE (PIPO) 600-MEYER		
	CU.FT./ AC./YR.	CU.M./ HA./YR.	TOTAL AGE	CU.FT./ AC./YR.	CU.M./ HA./YR.	TOTAL AGE	CU.FT./ AC./YR.	CU.M./ HA./YR.	TOTAL AGE	CU.FT./ AC./YR.	CU.M./ HA./YR.	TOTAL AGE
60	40	2.8	70	50	3.5	100	116	8.3	100	46	3.2	50
61	41	2.9	70	50	3.5	100	120	8.4	100	47	3.3	50
62	43	3.0	70	51	3.6	100	121	8.5	100	48	3.4	50
63	44	3.1	70	52	3.6	100	123	8.6	100	49	3.4	50
64	46	3.2	70	53	3.7	100	125	8.7	100	50	3.5	50
65	47	3.3	70	54	3.8	100	126	8.8	100	50	3.5	50
66	49	3.4	70	55	3.8	100	128	9.0	100	51	3.6	50
67	50	3.5	70	56	3.9	100	130	9.1	100	52	3.6	50
68	51	3.6	70	57	4.0	100	132	9.2	100	53	3.7	50
69	53	3.7	70	58	4.1	100	133	9.3	100	54	3.8	50
70	54	3.8	70	59	4.1	100	135	9.4	100	55	3.8	50
71	56	3.9	70	60	4.2	100	137	9.6	100	56	3.9	50
72	57	4.0	70	61	4.3	100	139	9.7	100	58	4.1	50
73	59	4.1	70	62	4.3	100	141	9.9	100	59	4.1	50
74	60	4.2	70	63	4.4	100	143	10.0	100	60	4.2	50
75	61	4.3	70	64	4.5	100	144	10.1	100	62	4.3	50
76	63	4.4	70	65	4.5	100	146	10.2	100	63	4.4	50
77	64	4.5	70	66	4.6	100	148	10.3	100	64	4.5	50
78	66	4.6	70	67	4.7	100	150	10.5	100	65	4.5	50
79	67	4.7	70	68	4.8	100	152	10.6	100	67	4.7	50
80	69	4.8	70	69	4.8	100	154	10.8	100	69	4.8	40
81	71	4.9	70	70	4.9	100	156	10.9	100	70	4.9	40
82	73	5.1	70	71	5.0	100	158	11.0	100	72	5.0	40
83	75	5.2	70	72	5.0	100	160	11.2	100	74	5.2	40
84	77	5.4	70	73	5.1	100	162	11.3	100	75	5.2	40
85	79	5.5	70	74	5.2	100	164	11.5	100	77	5.4	40
86	81	5.6	70	75	5.2	100	165	11.5	100	78	5.5	40
87	83	5.6	70	76	5.3	100	167	11.7	100	80	5.6	40
88	85	5.9	70	77	5.4	100				82	5.7	40
89	87	6.1	70	78	5.5	100				83	5.8	40
90	89	6.2	70	79	5.5	100				85	5.9	40
91	90	6.3	70	80	5.6	100				87	6.1	40
92	92	6.4	70	81	5.7	100				88	6.2	40
93	94	6.6	70	82	5.7	100				90	6.3	40
94	95	6.7	70	83	5.8	100				92	6.4	40
95	97	6.8	70	84	5.9	100				94	6.6	40
96	99	6.9	70	85	5.9	100				96	6.7	40
97	101	7.0	70	86	6.0	100				97	6.8	40
98	102	7.2	70	87	6.1	100				99	6.9	40
99	104	7.3	70	88	6.2	100				101	7.0	40

SITE INDEX	CHAI FOR SITKA SPRUCE 100 YR. TABLE (FISI) 490-MEYER				CHAI FOR LODGEPOLE PINE 100 YR. TABLE (FICO) 520-ALEXANDER				CHAI FOR W. WHITE PINE 100 YR. TABLE (PINO3) 570-HAIG				CHAI FOR PONDEROSA PINE 100 YR. TABLE (FIPO) 600-MEYER			
	CU.FT./ AC./YR.	CU.M./ HA./YR.	TOTAL AGE	INTER-1/8" ED.FT./ AC./YR.	CU.FT./ AC./YR.	CU.M./ HA./YR.	TOTAL AGE	CU.FT./ AC./YR.	CU.M./ HA./YR.	TOTAL AGE	CU.FT./ AC./YR.	CU.M./ HA./YR.	TOTAL AGE	INTER-1/8" ED.FT./ AC./YR.		
100	106	7.4	70	89	6.2	100	102	7.1	40	372	120	507	90			
101	108	7.6	70	90	6.3	100	104	7.3	40	381	120	519	90			
102	110	7.7	70	91	6.4	100	106	7.4	40	390	120	530	90			
103	113	7.9	70	92	6.4	100	108	7.6	40	399	120	542	90			
104	115	8.0	70	93	6.5	100	110	7.7	40	408	120	554	90			
105	117	8.2	70	94	6.6	100	112	7.8	40	417	120	566	90			
106	119	8.4	70	95	6.6	100	114	8.0	40	426	120	578	90			
107	122	8.5	70	96	6.7	100	116	8.1	40	435	120	590	90			
108	124	8.7	70	97	6.8	100	118	8.3	40	444	120	602	90			
109	126	8.8	70	98	6.9	100	120	8.4	40	453	120	614	90			
110	129	9.0	70	99	6.9	100	122	8.5	40	462	110	626	80			
111	131	9.2	70	100	7.0	100	124	8.7	40	473	110	641	80			
112	133	9.3	70	101	7.1	100	126	8.8	40	484	110	657	80			
113	135	9.5	70	102	7.1	100	128	9.0	40	495	110	672	80			
114	138	9.6	70	103	7.2	100	130	9.1	40	506	110	687	80			
115	140	9.8	70	104	7.3	100	132	9.2	40	517	110	702	80			
116	142	10.0	70	105	7.3	100	134	9.4	40	528	110	717	80			
117	145	10.1	70	106	7.4	100	136	9.5	40	539	110	732	80			
118	147	10.3	70	107	7.5	100	137	9.6	40	550	110	747	80			
119	149	10.4	70	108	7.5	100	139	9.7	40	561	110	762	80			
120	151	10.6	70	109	7.6	100	141	9.9	40	572	110	776	70			
121	154	10.8	70				144	10.1	40	584	110	793	70			
122	156	10.9	70				146	10.2	40	597	110	810	70			
123	159	11.1	70				149	10.4	40	610	110	827	70			
124	161	11.3	70				151	10.7	40	622	110	844	70			
125	164	11.4	70				154	10.8	40	635	110	861	70			
126	165	11.6	70				156	10.9	40	647	110	879	70			
127	168	11.8	70				159	11.1	40	660	110	896	70			
128	171	11.9	70				161	11.3	40	672	110	913	70			
129	173	12.1	70				164	11.5	40	685	110	930	70			
130	176	12.3	70				166	11.6	40	700	100	947	70			
131	178	12.4	70				168	11.7	40	714	100	964	70			
132	180	12.6	70				170	11.9	40	729	100	981	70			
133	183	12.8	70				173	12.1	40	743	100	998	70			
134	185	12.9	70				175	12.2	40	758	100	1015	70			
135	187	13.1	70				177	12.4	40	772	100	1031	70			
136	189	13.2	70				179	12.5	40	786	100	1048	70			
137	192	13.4	70				181	12.7	40	801	100	1065	70			
138	194	13.6	70				183	12.8	40	816	100	1082	70			
139	196	13.7	70				186	13.0	40	831	100	1100	70			

9/12/2005

To: Jerry Kendall

FAX: (541) 682-3947

From: Jim Hecker

FAX: (541) 752-5261

Jerry,

Here is copy of Tech Note No. 2 -
I've included both Lodgepole Pine &
Douglas Fir CMAJ ratings.

* Here is Part II —

SITE INDEX	CHAI FOR QUAKING ASPEN 50 YR. TABLE (POYRS) 730-BAKER			CHAI FOR DOUGLAS FIR EAST SIDE 50 YR. (PSHEG) 765-COCHRAN			CHAI FOR DOUGLAS FIR 100 YR. TABLE (PSHE) 790-MCARDLE			CHAI FOR DOUGLAS FIR WEST SIDE 50 YR. (PSHE) 795-KING		
	CU.FT./ AC./YR.	CU.H./ HA./YR.	TOTAL AGE	CU.FT./ AC./YR.	CU.H./ HA./YR.	TOTAL AGE	CU.FT./ AC./YR.	CU.H./ HA./YR.	TOTAL AGE	CU.FT./ AC./YR.	CU.H./ HA./YR.	TOTAL AGE
40	16	1.1	110	29	2.0	116						
41	17	1.2	110	30	2.1	115						79
42	18	1.3	110	32	2.2	115						81
43	19	1.3	110	34	2.4	114						83
44	20	1.4	110	35	2.4	114						84
45	20	1.4	110	36	2.5	113						86
46	21	1.5	100	38	2.7	112						89
47	22	1.5	100	40	2.8	112						91
48	23	1.6	100	41	2.9	111						93
49	24	1.7	100	42	2.9	111						94
50	25	1.7	100	44	3.1	110						96
51	25	1.7	100	46	3.2	109						
52	26	1.8	100	47	3.3	109						
53	27	1.9	100	49	3.4	108						
54	28	2.0	100	51	3.6	107						
55	28	2.0	100	52	3.6	106						
56	29	2.0	100	54	3.8	106						
57	30	2.1	100	56	3.9	105						
58	31	2.2	100	58	4.1	104						
59	31	2.2	100	59	4.1	104						
60	32	2.2	100	61	4.3	103						
61	33	2.3	100	63	4.4	102						
62	34	2.4	100	65	4.5	102						
63	34	2.4	100	67	4.7	101						
64	35	2.4	100	69	4.8	101						
65	36	2.5	100	71	5.0	100						
66	36	2.5	80	73	5.1	99						
67	37	2.6	80	75	5.2	99						
68	38	2.7	80	77	5.4	98						
69	38	2.7	80	79	5.5	98						
70	39	2.7	80	61	4.3	103						
71	40	2.8	80	63	4.4	102						
72	41	2.9	80	65	4.5	102						
73	41	2.9	80	67	4.7	101						
74	42	2.9	80	69	4.8	101						
75	43	3.0	80	71	5.0	100						
76	44	3.1	80	73	5.1	99						
77	45	3.1	80	75	5.2	99						
78	46	3.2	80	77	5.4	98						
79	47	3.3	80	79	5.5	98						

SITE INDEX	CHAI FOR QUAKING ASPEN			CHAI FOR DOUGLAS FIR			CHAI FOR DOUGLAS FIR			CHAI FOR DOUGLAS FIR					
	50 YR. TABLE (FOTRS) 730-BAKER			EAST SIDE 50 YR. (PSHEG) 765-COCHRAN			100 YR. TABLE (PSHE) 790-MCARDLE			WEST SIDE 50 YR. (PSHE) 795-XING					
	CU.FT./ AC./YR.	CU.M./ HA./YR.	TOTAL AGE	CU.FT./ AC./YR.	CU.M./ HA./YR.	TOTAL AGE	CU.FT./ AC./YR.	CU.M./ HA./YR.	TOTAL AGE	INTER-1/8" BD.FT./ AC./YR.	TOTAL AGE	CU.FT./ AC./YR.	CU.M./ HA./YR.	TOTAL AGE	
80	48	3.4	80	81	5.7	97	58	4.1	70	146	160	291	98	6.8	90
81	49	3.4	80	83	5.8	96	60	4.2	70	151	160	299	100	7.0	90
82	50	3.5	80	86	6.0	96	61	4.3	70	156	160	307	102	7.1	90
83	51	3.6	70	88	6.2	95	62	4.3	70	162	160	316	103	7.2	90
84	52	3.6	70	90	6.3	94	63	4.4	70	167	160	324	105	7.4	90
85	53	3.7	70	92	6.4	94	64	4.5	70	172	160	332	107	7.5	90
86	54	3.8	70	95	6.6	93	66	4.6	70	178	160	340	109	7.6	90
87	55	3.8	70	97	6.8	92	67	4.7	70	183	160	348	111	7.7	90
88	56	3.9	70	99	6.9	91	68	4.8	70	189	160	356	113	7.9	90
89	58	4.1	70	102	7.1	91	69	4.8	70	194	160	365	114	8.0	90
90	59	4.1	70	104	7.3	90	70	4.9	60	199	160	373	116	8.1	90
91	107	7.5	89	107	7.5	89	72	5.0	60	206	160	382	118	8.2	90
92	109	7.6	88	109	7.6	88	73	5.1	60	212	160	391	120	8.4	90
93	112	7.8	87	112	8.0	86	74	5.2	60	219	160	401	122	8.5	90
94	114	8.0	86	114	8.0	86	75	5.3	60	225	160	410	123	8.5	90
95	117	8.2	84	117	8.2	84	77	5.4	60	232	160	420	125	8.8	90
96	120	8.4	83	120	8.4	83	78	5.5	60	238	160	429	128	9.0	90
97	122	8.5	82	122	8.5	82	79	5.5	60	244	150	438	130	9.1	90
98	125	8.7	81	125	8.7	81	81	5.7	60	251	150	448	132	9.2	90
99	127	8.9	80	127	8.9	80	82	5.7	60	258	150	457	134	9.4	90
100	130	9.1	79	130	9.1	79	84	5.9	60	265	150	467	136	9.5	90
101	133	9.3	78	133	9.3	78	85	5.9	60	273	150	476	138	9.6	90
102	136	9.5	78	136	9.5	78	86	6.0	60	280	150	490	140	9.8	90
103	139	9.7	77	139	9.7	77	88	6.2	60	288	150	501	141	9.9	90
104	142	9.9	76	142	9.9	76	89	6.2	60	296	150	512	143	10.0	90
105	145	10.1	76	145	10.1	76	91	6.3	60	304	150	524	145	10.1	90
106	148	10.3	75	148	10.3	75	92	6.4	60	312	150	535	147	10.3	90
107	151	10.6	74	151	10.6	74	94	6.6	60	320	140	547	149	10.4	90
108	154	10.8	73	154	10.8	73	95	6.6	60	329	140	558	150	10.5	90
109	157	11.0	73	157	11.0	73	97	6.8	60	337	140	569	152	10.6	90
110	160	11.2	72	160	11.2	72	98	6.9	60	345	140	581	154	10.8	90
111	100	7.0	60	100	7.0	60	100	7.0	60	354	140	594	156	10.9	90
112	101	7.1	60	101	7.1	60	103	7.2	60	363	140	606	158	11.0	90
113	103	7.2	60	103	7.2	60	105	7.3	60	372	130	619	160	11.2	90
114	105	7.3	60	105	7.3	60	106	7.4	60	381	130	631	162	11.3	90
115	106	7.4	60	106	7.4	60	108	7.5	60	390	130	644	163	11.4	90
116	108	7.6	60	108	7.6	60	110	7.7	60	399	130	656	167	11.7	90
117	110	7.7	60	110	7.7	60	111	7.8	60	408	130	669	169	11.8	90
118	111	7.8	60	111	7.8	60	113	7.9	60	418	130	681	171	11.9	90
119	113	7.9	60	113	7.9	60	113	7.9	60	427	130	694	173	12.1	90

SITE INDEX	CHAI FOR DOUGLAS FIR 100 YR. TABLE (PSME) 790-MCARDLE				CHAI FOR DOUGLAS FIR WEST SIDE 50 YR. (PSHE) 795-KING			
	CU.FT./ AC./YR.	CU.M./ HA./YR.	TOTAL AGE	BD.FT./ AC. AGE	CU.FT./ AC./YR.	CU.M./ HA./YR.	TOTAL AGE	BD.FT./ AC. AGE
120	115	8.0	60	437	120	175	12.2	90
121	116	8.1	60	446	120	176	12.3	90
122	118	8.3	60	456	120	178	12.5	90
123	119	8.3	60	465	120	180	12.6	90
124	121	8.5	60	475	120	182	12.7	90
125	122	8.5	60	485	120	184	12.9	90
126	124	8.7	60	494	120	186	13.0	90
127	125	8.7	60	504	120	188	13.1	90
128	127	8.9	60	513	120	190	13.2	90
129	128	9.0	60	523	120	191	13.4	90
130	129	9.0	60	532	110	193	13.5	90
131	131	9.2	60	542	110	195	13.6	90
132	133	9.3	60	552	110	197	13.8	90
133	134	9.4	60	562	110	199	13.9	90
134	136	9.5	60	572	110	201	14.0	90
135	138	9.7	60	581	110	203	14.2	90
136	139	9.7	60	591	110	207	14.5	90
137	140	9.8	60	601	110	209	14.6	90
138	142	9.9	60	611	110	210	14.7	90
139	144	10.1	60	621	110	212	14.8	90
140	145	10.1	60	631	110	214	15.0	90
141	146	10.2	60	640	110	216	15.1	90
142	148	10.3	60	649	110	218	15.2	90
143	149	10.4	60	658	110	220	15.4	90
144	150	10.5	60	667	110	222	15.5	90
145	152	10.6	60	676	110	224	15.6	90
146	153	10.7	60	686	100	226	15.8	90
147	154	10.8	60	695	100	227	15.9	90
148	155	10.9	60	705	100	229	16.0	90
149	157	11.0	60	714	100	231	16.2	90
150	158	11.1	60	724	100	233	16.3	90
151	159	11.1	60	733	100	235	16.4	90
152	161	11.3	60	743	100	237	16.6	90
153	162	11.3	60	752	100	239	16.7	90
154	163	11.4	60	762	100	241	16.8	90
155	164	11.5	60	771	100	243	17.0	90
156	165	11.5	60	780	100	244	17.1	90
157	167	11.7	60	790	100	246	17.2	90
158	168	11.8	60	799	100	248	17.4	90
159	169	11.8	60	809	100	250	17.5	90

SITE INDEX	CHAI FOR DOUGLAS FIR				100 YR. TABLE (PSME) 790-MCARDLE				CHAI FOR DOUGLAS FIR			
	CU.FT./ AC./YR.	CU.H./ HA./YR.	TOTAL AGE	SCRIBNER BD.FT./ AC./YR.	TOTAL AGE	INTER.1/8* BD.FT./ AC./YR.	TOTAL AGE	CU.FT./ AC./YR.	CU.H./ HA./YR.	TOTAL AGE	SCRIBNER BD.FT./ AC./YR.	TOTAL AGE
160	170	11.9	60	818	100	1190	80	252	17.6	90		
161	171	12.0	60	827	100	1200	80					
162	172	12.0	60	835	100	1209	80					
163	173	12.1	60	844	100	1219	80					
164	174	12.2	60	852	100	1228	80					
165	176	12.3	60	861	100	1238	80					
166	177	12.4	60	870	100	1247	80					
167	178	12.5	60	878	100	1257	80					
168	179	12.5	60	887	100	1266	80					
169	180	12.6	60	895	100	1276	80					
170	181	12.7	60	904	100	1285	80					
171	182	12.7	60	912	100	1295	80					
172	183	12.8	60	921	100	1305	80					
173	184	12.9	60	930	100	1315	80					
174	185	12.9	60	938	100	1325	80					
175	186	13.0	60	946	100	1336	80					
176	187	13.1	60	955	100	1346	80					
177	188	13.2	60	964	90	1356	80					
178	189	13.2	60	973	90	1366	80					
179	190	13.3	60	982	90	1376	80					
180	191	13.4	60	991	90	1386	80					
181	192	13.4	60	1000	90	1395	80					
182	193	13.5	60	1009	90	1404	80					
183	194	13.6	60	1018	90	1413	80					
184	194	13.6	60	1027	90	1422	80					
185	195	13.6	60	1036	90	1431	80					
186	196	13.7	60	1044	90	1440	80					
187	197	13.7	60	1053	90	1449	80					
188	198	13.9	60	1062	90	1458	80					
189	199	13.9	60	1071	90	1467	80					
190	200	14.0	60	1080	90	1476	80					
191	201	14.1	60	1088	90	1484	80					
192	202	14.1	60	1097	90	1493	80					
193	202	14.1	60	1105	90	1501	80					
194	203	14.2	60	1114	90	1509	80					
195	203	14.2	60	1122	90	1518	80					
196	204	14.3	60	1131	90	1526	80					
197	205	14.3	60	1139	90	1534	80					
198	206	14.4	60	1148	90	1542	80					
199	207	14.5	60	1156	90	1551	80					
	208	14.6	60		90							

CHAI FOR DOUGLAS FIR

100 YR. TABLE
(PSHS)
790-MCARDLE

SITE INDEX	CU. FT. / CU. M. /		TOTAL		SCRIPNER		INTER-1/8"	
	AC./YR.	HA./YR.	AGE	AGE	BD. FT. / AC./YR.	BD. FT. / AGE	BD. FT. / AC./YR.	TOTAL AGE
200	208	14.6	60	1164	90	1559	80	
201	209	14.6	60	1173	90	1567	80	
202	210	14.7	60	1181	90	1575	80	
203	211	14.8	60	1189	90	1583	80	
204	211	14.8	60	1198	90	1591	80	
205	212	14.8	60	1206	90	1599	80	
206	213	14.9	60	1214	90	1607	80	
207	214	15.0	60	1223	90	1615	80	
208	214	15.0	60	1231	90	1623	80	
209	215	15.0	60	1239	90	1631	80	
210	216	15.1	60	1248	90	1639	80	