

UPPER WILLAMETTE RESOURCE CONSERVATION
AND DEVELOPMENT PROJECT AREA
A DIRECTORY OF BARK PRODUCERS AND FACILITIES
in
BENTON, LANE and LINN COUNTIES

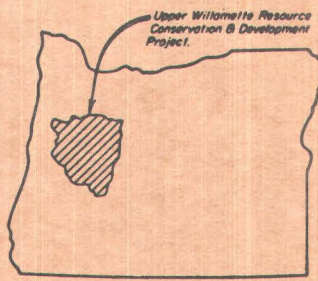
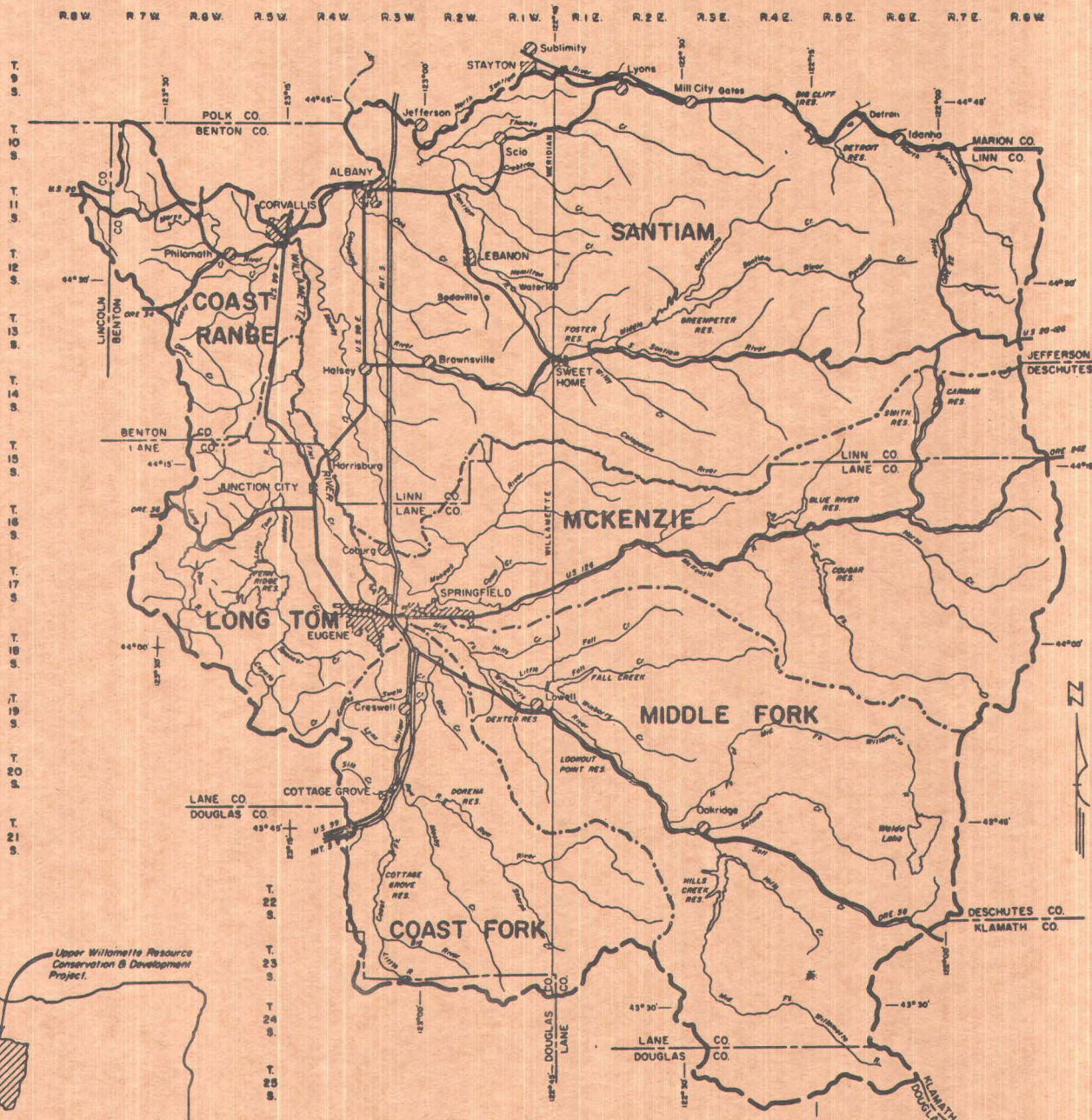
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March, 1968

BARK UTILIZATION AREA

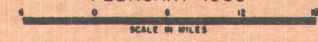
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LOCATION MAP

UPPER WILLAMETTE
 RESOURCE CONSERVATION & DEVELOPMENT PROJECT
 BENTON, DOUGLAS, LANE & LINN COUNTIES, OREGON

FEBRUARY 1966



PREFACE

This report was prepared upon request of the Woodland Resource Committee, Upper Willamette Resource Conservation and Development Project Program and the Bark Study Committee, Eugene Chamber of Commerce.

Four primary purposes are served by this report. (1) Information is provided on the amount of bark that is available within the Upper Willamette Resource Conservation Project area of Benton, Lane and Linn counties. (2) Several uses for bark are indicated by species. (3) Facilities presently available for processing bark are listed. (4) Some conclusions are drawn about the potential market for bark from this area.

Sixty-three companies within the project area provided information on bark availability. All of these companies are extremely interested in development of bark markets. In the personal interviews a copy of the Eugene Chamber of Commerce Bark Study Committee's "Utilization of Bark" report, June, 1967, was presented to each company; generally followed by a discussion to emphasize some of the accomplishments of the Bark Study Committee. Nearly all indicated a willingness to support the Bark Study Committee and requested copies of future reports concerning progress towards better utilization of bark.

The utility of this report has been greatly enhanced by numerous individuals. These include Dr. Everett Ellis, Forest Products Research Laboratory, School of Forestry, Oregon State University; Ralph K. Peter, Forest Products Utilization, U. S. Forest Service; Larry W. Campbell, C. C. I. Distributors Company; and Judy Haines, Eugene Chamber of Commerce. There was also fine response and cooperation by the companies contacted for information. Credit is likewise extended to personnel of the Oregon State Forestry Department for their assistance.

PHONE
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FOR FURTHER INFORMATION... WRITE OR PHONE
EUGENE CHAMBER OF COMMERCE.

the
VERSATILITY
of
BARK & BARK PRODUCTS

1. SOIL AMENDMENT
2. GROUND COVER AND DECORATION
3. MULCH
4. DRAINAGE IMPROVEMENT
5. SOIL EROSION CONTROL
6. POULTRY LITTER
7. ANIMAL BEDDING

These can be the Nucleus of a new industry which will create new jobs and bolster the economy by making a valuable asset out of a costly waste.

MANUFACTURERS

BARK UTILIZATION

INTRODUCTION

A market for bark has never been in greater demand than at the present. Air pollution regulations and high stumpage prices make maximum utilization of forest products a must. At the mill, bark and sawdust are the only portion of the log not now fully utilized. It is the purpose of this study to help develop complete bark utilization. The Bark Study Committee of the Eugene Chamber of Commerce was formed for this very reason over two years ago. The committee meets the first Thursday of every month at the Eugene Hotel. It has a standing invitation open to all interested parties.

One urgent need that has become apparent during these meetings is for specialized equipment to handle bark. This is especially true for agricultural uses such as filling drainage trenches and spreading a ground cover layer in fruit and nut orchards. Some type of machinery that will spread or convey bark in large volumes economically must be developed before much real progress can be made in this field.

The idea of a centrally located, independent hammermill or pelletizing plant for surplus bark has been considered. This appealed to many of the companies interviewed. A cooperative arrangement among log processors has been considered. Companies presently using their bark for fuel, indicated they would change to other power sources if the market made it economically feasible to do so.

Most mills do not know how much bark they actually produce, but they do have records of their annual cut. This known volume can be converted using a conservative rule of thumb i. e. , one thousand board feet of logs (Douglas fir) will yield one-tenth of a standard unit of bark.¹ It was found that the total estimated volume of bark produced in the three counties amounts to approximately 216,140 units per year, or about 540,350 tons. This constitutes more than one-sixth of the total yield of bark for the State of Oregon.

A breakdown of the annual yield indicates that Lane County produces some 149,030 units, Benton 20,110 units and Linn 47,000 units. These estimates were derived from forty-one companies in Lane and eleven companies each in Benton and Linn counties. The many variables make it impossible at this time to determine an accurate figure. It does indicate, however, a significant volume of bark that can either continue to be a residue problem or a valuable source of raw material for new products.

The average price presently paid for raw bark at the mill is one dollar per unit. This price does not provide a profit to the mill owner

but it does help alleviate some of the disposal problem. Many companies would gladly install facilities for processing bark if the price was sufficient to amortize the investment.



Pebbled bark used for decorative purposes is being produced in Eugene by Weyerhaeuser Company.

Hemlock bark, packaged in an attractive bag by Cone Lumber Company, is being handled by Knight Trucking Company of Eugene.



¹ "Conversion Factors for Pacific Northwest Forest Products," Institute of Forest Products, State of Washington, June, 1957, Page 25.

KNOWN USES FOR BARK BY SPECIES

Any type of bark, when properly applied, will form a thermal blanket over the ground keeping the plant roots at an almost constant temperature. And as the fine top layer of the bark dries, loss of moisture due to capillary action is greatly reduced, even at extremes in temperature. These combined actions are a splendid aid in stimulating root growth and conserving moisture. Bark is also excellent for weed control providing a sufficiently deep layer is applied.

Bark as a soil amendment and topsoil cover should be hammer-milled or ground for home and garden use. For decorative purposes, the bark should be sieved into what is called "Pebbled Bark". Three standard sizes of pebbled bark are produced:

Small -- less than one inch.

Medium -- from one inch to two inches.

Large -- over two and one-half inches.

SPECIFIC USES OF BARK BY SPECIES

	Soil Amendment	Soil Drainage	Decorative Cover	Livestock Bedding	Poultry Litter	Weed Control
Douglas fir	X	X	X	X	X	X
Ponderosa pine	X		X			X
Hemlock	X		X			
Cedar				X		
Alder	X		X			

Both Douglas fir and ponderosa pine bark when ground up make an excellent soil amendment. Fertilizer should be added to prevent robbing of nitrogen from the soil. If the bark is pelletized, fertilizer can be added during the processing. This is desirable since the rate of fertilizer-release can be controlled by the amount of pressure applied during the pelletizing.

Douglas fir bark makes an excellent slug and snail repellent due to the small slivers (bast fibers) in it.

Hemlock bark is considered by some to be one of the finest soil amendments known. It absorbs water readily, mixes well with any soil. Its deep brown color and lack of slivers makes it a very desirable product for home gardeners. It robs little nitrogen from the soil so that it is not necessary to add fertilizer when first planting. In fact, plants, shrubs and roses can be planted in pure hemlock bark and do well. Hemlock bark does not pelletize¹ satisfactorily without an additive nor does it pebble² well.

Cedar bark in coarse form works well for livestock bedding material. It does not make a good soil amendment or ground cover due to its stringiness. If refined to the same degree that other barks, however, this may not be such a problem. Still, its pH factor may continue to preclude its use as a soil amendment.

Experiments are now being carried out with all types of bark to determine the best utilization for each. The Forest Research Laboratory at Oregon State University at Corvallis, Oregon has been conducting many experiments in the more sophisticated processing of bark. Such things as bark board, dye resins, pelletizing, waxes, polishes and tannins are being explored to help promote the utilization of bark.³

¹ Bark may be pelletized by processing with an alfalfa machine.

² Pebbled bark is produced by revolving bark through several screens of different sizes. A blue tinge is derived on pine bark by the application of steam during the processing.

³ Information for the "Known Uses for Bark by Species" was supplied by Larry W. Campbell, C. C. I. Distributors Company; member of the Eugene Chamber of Commerce Bark Study Committee.

BARK PRODUCTION

Benton County

<u>Company & Location</u>	<u>Species</u>	<u>Present Facilities to Process Bark</u>	<u>*Estimated Units of Bark Per Year</u>
Barber, Paul, Hardwood, Inc. Philomath, Oregon	Ra, M	Hog & Barker	40
Clemens Forest Products, Inc. Philomath, Oregon	D, H	Hog & Barker	7,500
Hobin Lumber Co. Philomath, Oregon	D	Barker	720
Hoskins Lumber Co. Philomath, Oregon	D, H	Barker	700
Hull-Oaks Lumber Co. Monroe, Oregon	D, H, C	None	750
Larson Lumber Co. Philomath, Oregon	D, H, C	Barker	3,000
Miller, I.P., Lumber Co., Inc. Monroe, Oregon	D, H, C	Barker	700
Moser Lumber Co. King's Valley, Oregon	D, H	Barker	1,800
North Side Lumber Co. Philomath, Oregon	D	Barker	1,800
Rex Veneer Co. Philomath, Oregon	D	Barker	2,400
Three "G" Lumber Co. Wren, Oregon	D, H	Barker	700

* Based on 1/10 unit of bark per thousand board feet of logs (Scribner)



This equipment is not needed after application of bark in filbert orchards.

Bark used for weed control in a fruit orchard in Springfield, Oregon. (Pictures by Duane Hatch, Extension Agent).



BARK PRODUCTION

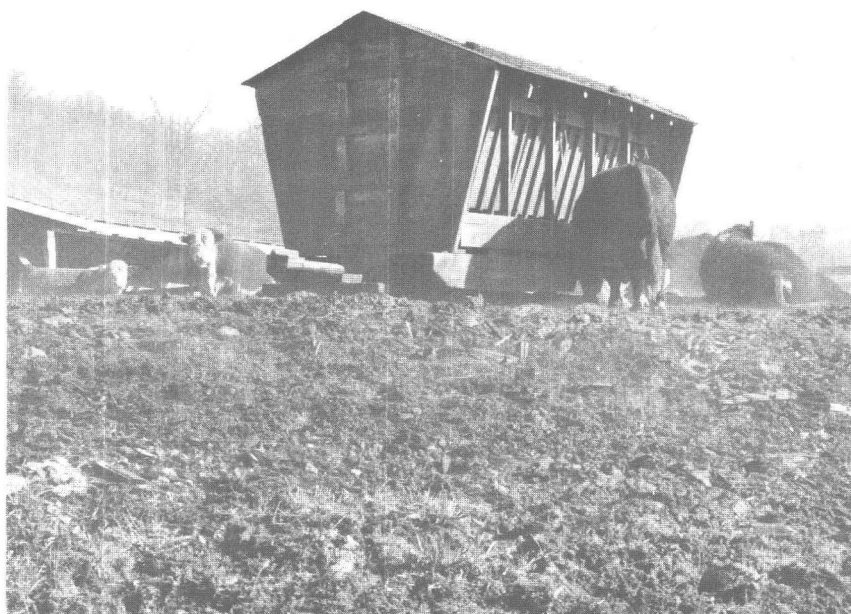
Lane County

<u>Company & Location</u>	<u>Species</u>	<u>Present Facilities to Process Bark</u>	<u>*Estimated Units of Bark Per Year</u>
All American Stud Co. Springfield, Oregon	H, WF	Barker	3,500
American Can Co. Junction City, Oregon	D	Barker	3,000
Barker Willamette Lbr. Co. Inc. Eugene, Oregon	D, H	Barker	1,650
Blue River Veneer Co. Blue River, Oregon	D, H, C, & P	None	1,650
Bohemia Lumber Co. Culp Creek, Oregon	D, H	Hog & Barker	3,840
Cabax Mills Plywood Div. Eugene, Oregon	D	Hog & Barker	3,750
Central Manufacturing Corp. Eugene, Oregon	D	None	650
Coburg Veneer Corp. Coburg, Oregon	D	Hog, Barker & Bark Bin	1,650
Cuddeback Lumber Co. Eugene, Oregon	D, C	Barker	5,000
Douglas Fir Lumber Co. Eugene, Oregon	D	None	720
Eugene Stud & Veneer, Inc. Eugene, Oregon	D	Hog & Barker	1,650
Gem Lumber, Inc. Springfield, Oregon	D	Hog & Barker	1,200
Georgia-Pacific Corp. Springfield, Oregon	D	Hog & Barker	15,000

<u>Company & Location</u>	<u>Species</u>	<u>Present Facilities to Process Bark</u>	<u>*Estimated Units of Bark Per Year</u>
Giustina Bros. Lumber & Plywood Co. Eugene, Oregon	D, H	Hammermill	3,700
Gregory Lumber Co. Eugene, Oregon	D, H, C	Hog & Barker	1,600
Hardwoods Company, Inc. Eugene, Oregon	Ra, M	Hog & Barker	2,400
Hills Creek Lumber Co. Jasper, Oregon	D	Barker	4,800
Hines, Edward, Lumber Co. Westfir, Oregon	D	Hammermill, Hog & Barker	5,500
Huntington Shingle Co., Inc. Springfield, Oregon	C	None	500
International Paper Co. Long-Bell Division Veneta, Oregon	D	Hog & Barker	7,500
Kimball Bros. Lumber Co. Dexter, Oregon	D, H, C	Barker	1,650
Knight Trucking Co. (Cone Lumber Co.) Eugene, Oregon	H	Hammermill	4,800
Lane Plywood, Inc. Eugene, Oregon	D	Hog & Barker	7,200
Larson, Clark & Powell Junction City, Oregon	D, H, C	None	1,500
Mazama Timber Products, Inc. Saginaw, Oregon	D	Barker	1,600
Mt. June Lumber Co. Springfield, Oregon	D	None	3,700

<u>Company & Location</u>	<u>Species</u>	<u>Present Facilities to Process Bark</u>	<u>*Estimated Units of Bark Per Year</u>
Phillipo Forest Products, Inc. (Armstrong Lumber Co.) Springfield, Oregon	D	Barker	2,400
Pope & Talbot, Inc. Oakridge, Oregon	D, H, C, & P	Hog & Barker	5,000
Rickini Lumber Co. Saginaw, Oregon	D, H	Barker	3,120
Rosboro Lumber Co. Springfield, Oregon	D, H, P	Hammermill	7,000
Seneca Sawmill Co. Eugene, Oregon	D, H	Hammerhog, Bins, Shaker Screens & Barker	5,000
Star Lumber Co. Eugene, Oregon	D, H, P	Hog & Barker	4,800
Swanson Bros. Lumber Co. Noti, Oregon	D, H, C	Barker	1,000
Tangfeldt Lumber Co. Eugene, Oregon	D, H	Hog & Barker	1,650
Triangle Veneer, Inc. Eugene, Oregon	D	Hog & Barker	1,200
W & W Lumber Co. Cottage Grove, Oregon	D, H, C, & IC	Barker	1,650
Weyerhaeuser Co. Cottage Grove, Oregon	D, H	Hog & Barker	3,700
Weyerhaeuser Co. Springfield, Oregon	D, H	Hog & Barker	15,000
Willamette Industries, Inc. Springfield Division Springfield, Oregon	D	Hog & Barker	5,000

<u>Company & Location</u>	<u>Species</u>	<u>Present Facilities to Process Bark</u>	<u>*Estimated Units of Bark Per Year</u>
Zip-O-Log Mill, Inc. Eugene, Oregon	D	Hog & Barker	1,650
Zip-O-Log Veneer, Inc. Eugene, Oregon	D	Hog & Barker	1,000



Mill run bark stands up well under heavy traffic around the self-feeder since it forms a corky layer which resists the tendency to be trampled into the mud.

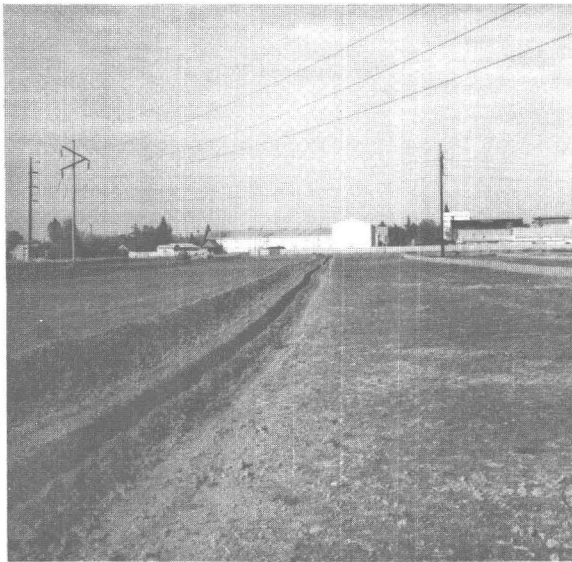
* Based on 1/10 unit of bark per thousand board feet of logs (Scribner)

BARK PRODUCTION

Linn County

<u>Company & Location</u>	<u>Species</u>	<u>Present Facilities to Process Bark</u>	<u>*Estimated Units of Bark Per Year</u>
American Can Company Brownsville, Oregon	D, IC, P, & SP	Barker	4,500
Bauman Lumber Co. Lebanon, Oregon	D, H	Hog	4,800
Cedar Lumber, Inc. Lyons, Oregon	D, H	None	5,000
Clear Lumber Co. Sweet Home, Oregon	D	Barker	1,650
Freres Lumber Co., Inc. Freres Veneer Co. Lyons, Oregon	D	Barker	4,000
Simpson Timber Co. Albany Plywood Plant Albany, Oregon	D	Hog	2,400
Stout Creek Lumber Co. Lyons, Oregon	D, WF, & H	Hammerhog	2,500
Tomco, Inc. Cascadia, Oregon	H, D, C	Barker	1,650
U. S. Plywood Corp. Cascades Division Lebanon, Oregon	D	Hog	7,000
Willamette Industries, Inc. Foster Division Foster, Oregon	D	Hammermill & Hog	7,200
Willamette Industries, Inc. Sweet Home Division Sweet Home, Oregon	D	Barker	6,300

* Based on 1/10 unit of bark per thousand board feet of logs (Scribner)



A study to determine the effect bark may have on the drainage capacity of the heavy clay soils if used as backfill in tile trenches was made at Albany, Oregon in October 1967. Six trenches were selected, two each for bark, sawdust and soil for comparison. The need for specialized equipment to handle bark is apparent. There was considerable waste using a tractor to push the material into the trench. Plastic risers connected into a "T" joint at the lower end of the tile line to facilitate volume measurements were installed. (see picture on the lower right).



CONCLUSIONS

1. Bark has many potential uses that may be developed into profitable markets.
2. The interest of mill owners for better utilization of this material is widespread and sincere.
3. The desire to find markets for bark is accelerated by the need to alleviate air pollution problems.
4. The high price and shortage of stumpage dictates a greater utilization of all the log including the bark.

RECOMMENDATIONS

1. Awaken the awareness of potential customers such as farmers and home gardeners to the beneficial uses of bark.
2. Encourage farm equipment manufacturers to develop or adapt suitable equipment to spread bark.
3. Encourage mill owners to install bark handling and processing facilities.
4. Make plans towards other research projects to be carried out this year.
5. Compile cost analysis data while making research projects.