

Forest Service

Northeastern Area State & Private Forestry

Forest Resources Management

Morgantown, WV

NA-TP-02-94 Revised August 2003

Recycling Municipal Trees

A Guide for Marketing Sawlogs from Street Tree Removals in Municipalities









The USDA Forest Service hereby gives notice that the information herein contained shall not create any warranty, expressed or implied. The person or organization using this information waives and relinquishes any and all claims against the United States of America, its officers, employees, and project cooperators, for any loss, damage, personal injury, or death incidental to, or occurring as a consequence of, the use of it.

The use of trade, firm, or corporation names in this publication is for the information and convenience of the reader. Such use does not constitute official endorsement or approval by the U.S. Department of Agriculture of any product or service to the exclusion of others that may be suitable.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

RECYCLING MUNICIPAL TREES

A Guide for Marketing Sawlogs from Street Tree Removals in Municipalities

by

Edward T. Cesa
Marketing Specialist
Forest Resources Management
Northeastern Area, State & Private Forestry
USDA Forest Service
180 Canfield Street
Morgantown, WV 26505

Edward A. Lempicki
Utilization & Marketing Specialist
Bureau of Forest Management
New Jersey Forest Service
501 East State Street
PO Box 404
Trenton, NJ 08625-0404

J. Howard Knotts Editorial Assistant West Virginia University School of Journalism Morgantown, WV 26506

Revised August 2003







Acknowledgments

As with most publications, many individuals have contributed to this one. We would like to thank all the reviewers for their insight and comments. They have increased the quality of this publication significantly. Others we would specifically like to thank include: Willard's Sawmill, Trenton, NJ; M&A Tree Service, Garwood, NJ; Wood-Mizer Products, Inc., Indianapolis, IN; Minnesota Department of Natural Resources, Division of Forestry; Wisconsin Department of Natural Resources, Bureau of Forestry; Pennsylvania Department of Environmental Resources, Bureau of Forestry; West Virginia Department of Commerce, Labor, & Environmental Resources, Division of Forestry; Sardo Pallet Lab, Department of Wood Science & Forest Products, Virginia Tech, Blacksburg, VA; and CitiLog, Ewing, NJ. We also would like to specifically thank Jeffery J. Bejune, Forest Products Technologist with the USDA Forest Service, for his diligent work in updating the Appendices and for developing the CitiLog Case Study.

Editors: Brenda L. Wilkins

J. Howard Knotts

Graphics & Production: Nancy A. Lough

J.Howard Knotts

Victoria Evans

Photographs: Edward A. Lempicki

Edward T. Cesa Jeffery J. Bejune

Preface

The premise for writing this guide came from a USDA Forest Service Rural Development *through* Forestry project titled, "Municipal Forest Products Marketing Service." The project was administered by the New Jersey Division of Parks and Forestry, Forestry Services, in 1991. The goal of the project was to provide marketing and technical assistance to New Jersey municipalities in recycling street tree removals. It was found that opportunities to produce and merchandise sawlogs from street tree removals exist. These opportunities can generate income for municipal tree management budgets and provide a wide variety of other benefits. The methods for merchandising street tree sawlogs are described within this guide. If you have a street tree disposal problem, the ideas presented here may provide a solution.

The original version of this document was printed in 1994. Since then, many copies of this publication have been distributed and many presentations on this concept have been made. Almost 10 years later, the concepts in this publication are as relevant today as they were in 1994 and interest in the utilization of the urban log resource continues to grow.



URBAN & COMMUNITY FORESTRY FOREST PRODUCTS CONSERVATION AND RECYCLING



Table of Contents

\mathbf{E}	XECUTIVE SUMMARY	1
I.	INTRODUCTION	2
Π	. THE MARKET	5
П	I. PRODUCTS & SPECIFICATIONS	9
	C. Proper Log Manufacturing	
	D. Log Quantities and Volume Determination	
	E. Storage Requirements	
	F. Log Loading and Unloading Safety Procedures	18
IV	/. MARKETING MERCHANTABLE SAWLOGS	19
	A. Commercial Sawmill Operations	19
	1. State Forestry Offices	19
	2. Consulting Foresters	21
	3. Forestry/Wood Products Extension Offices	21
	4. RC&D Program	21
	5. Word-of-Mouth	22
	B. Local Crafters/Hobbyists/Custom Sawmillers	
	1. State Forestry Offices	
	2. Sawmill Equipment Manufacturers	
	3. Craft Organizations	
	4. Word-of-Mouth	
	5. The Internet	
	C. In-house Markets: Viable Options for Municipalities	
V.	CASE STUDIES	24
	Case Study A. M&A Tree Service, Garwood, NJ	24
	Case Study B. Willard's Sawmill, Trenton, NJ	27
	Case Study C. CitiLog, Ewing, NJ	30
V	I. APPENDICES	32
	ppendix A: Safety Procedures for Logging Operations	
	ppendix B: Proper Log Manufacturing	
	ppendix C: State Forestry Offices	
A	ppendix D: State Marketing Bulletins	45
A	ppendix E: Forestry /Wood Products Extension Specialists	47
	ppendix F: Resource Conservation & Development Program	
A	ppendix G: Portable Sawmill Manufacturers & Suppliers	54
A	ppendix H: State-Wide Craft Organizations	56

EXECUTIVE SUMMARY

The purpose of this guide is to make officials of municipalities aware of an alternative strategy for using their street tree removals; a "recycling" strategy which can potentially turn a cost-burden scenario into an income-generating opportunity. The strategy involves merchandising sawmill-size logs from street tree removals to sawmills or other companies that have unique uses for street tree logs.

The process includes:

- 1. Identifying one or more sawmills in your area that may be interested in purchasing your material,
- 2. Learning what their sawlog requirements are and deciding whether your street tree logs fit these requirements,
- 3. Locating and removing metal and other foreign material in the logs,
- 4. Storing sawlogs until a salable quantity is accumulated, and
- 5. Being flexible and persistent enough to try this concept.

Recycling municipal trees by converting street tree removals to valuable sawlogs could potentially generate income as well as reduce the amount of time and labor costs involved in processing this material into firewood.

Merchandising sawlogs from street tree removals is an alternative recycling strategy that municipalities can use to generate income for tree management and maintenance programs.

Many street tree management programs are run as a cost burden to municipalities because little economic return is generated from street tree management activities.

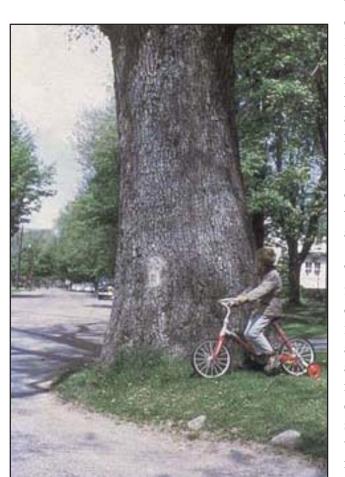
Street trees improve our quality of life and enhance the beauty of the communities we live in.

Some of a municipality's street tree removals can generate income.

I. INTRODUCTION

Many municipalities and local governments are currently experiencing budgeting problems in meeting community needs. Street tree management and maintenance budgets are among those becoming strained. As a result, the quality of our street trees cannot help but suffer as economic considerations continue to reduce tree management budgets.

Presently, much of the wood generated from street tree removals brings little economic return to tree management budgets. Because of this, most tree management and maintenance programs are being run as a cost burden to municipal budgets. Although most tree management crews are hardworking and efficient, the products rendered from street tree removals are usually low-value, which returns little money



to municipality coffers. In fact, in New Jersey, it is estimated that more than 50 percent of an average municipality's tree management budget is spent on the cost of tree removals alone.

Tree mortality from natural occurrences like insects, diseases, and storms plus a myriad of manmade circumstances such as roadway widening, right-of-way maintenance, and utility con-

struction activities, takes a huge toll on street trees. This results in a continuing need for tree maintenance on a municipal level. Much of this harvested wood, if produced and marketed effectively, can generate income for municipalities to help support tree management and maintenance programs.

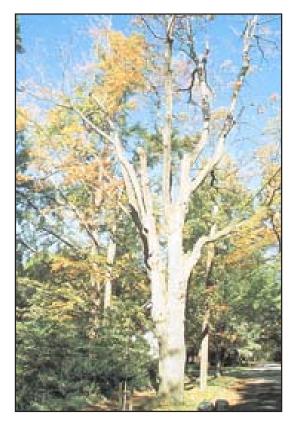


Storm damage can generate large quantities of woody material. One method of reducing the volume of wood a municipality handles is to market the larger size material to companies that can process it into usable products, such as lumber or landscape ties.

This publication is designed as a guide for municipal officials who deal with disposal of street tree removals. Ideas and suggestions in this

guide are offered as potential alternatives for current tree management and disposal practices. They may or may not work in a particular area. But, given the success that several municipalities had in New Jersey by exploring these ideas and suggestions, we believe they are certainly worth examining (see Case Studies on pages 24-31).

The focus of this guide is to emphasize the potential marketability of sawmill-size logs from municipal tree removals. Advantages of merchandising salable sawlogs include:



This dying tree will eventually need to be removed. The trunk is a potential sawlog capable of producing salable lumber products. If sold as a sawlog, the municipality will save itself the work of processing that part of the tree into firewood and save money in the overall cost of disposal.

• potential income generated from selling logs or developing barter arrangements,

Merchandising salable sawlogs from street tree removals provides many advantages to municipalities.

- reduction in labor cost by reducing the amount of time work crews need to process logs into firewood,
- reduction in amount of woody material going to landfills,
- reduction in landfill costs for disposal of material,
- reduction in volume of firewood material that must be stored in municipal maintenance yards until it is sold, and
- conservation of forestland resources by generating sawlogs from street trees that must be removed anyway.

Many municipalities, particularly the ones located in urban and suburban areas, are already recycling and marketing street tree removals to some degree. In most cases, the use of tree removals involves providing products directly to residents in the municipality. For example, leaves and twigs are composted and used by residents as fertilizer. Small branches are chipped and used residentially as mulch, and for some municipal operations. Large branches and tree trunks are cut into firewood.

Firewood is the most common product produced from street tree removals. Usually, this material is left at the roadside for local residents to pick up, or it gets transported to a central yard or storage site where it is piled for future processing. Firewood production generally involves tree material from every size class, quality type, and species group.



Street tree removals are costly and time consuming.

Whatever there is to be removed, whether it's oak, sycamore, ash, maple, pine or spruce, usually goes into the firewood pile. In addition, many municipalities split the larger pieces, thus



Many municipalities transport their tree removal material to maintenance yards for further processing.

further adding to the labor and costs of removing street trees.

The premise for writing this guide is that there must be a better way; a better way for street tree management than *maximum cost - mini-mum return*. The removal work itself must be done, but there is a potential oppor-

tunity for changing this cost-burden scenario into one that is more cost efficient by exploring the ideas in this guide. Instead of sawing a good log into firewood, leave it "as is" — a



Firewood splitting operations are usually time consuming and labor intensive.

readily marketable commodity. The dollar return potential of selling the log for lumber products exceeds the return potential of selling the log for firewood by at least two to four times.

II. THE MARKET

The concept of utilizing street trees in sawmills is not new. Some sawmills have been sawing products from street trees for many years because they have found a unique niche for using street tree sawlogs. These mills process both hardwoods (trees which lose their leaves every year, i.e., oaks, maples) and softwoods (trees with needle-like leaves that do not fall off in the dormant season, i.e., white pine, Norway spruce).

The dollar return potential of selling a good street tree log for lumber products exceeds the dollar return potential of selling the same log for firewood by two to four times.

Wood pallets, such as the ones supporting these cement blocks, are a common product manufactured from both hardwood and softwood logs.

Street tree logs can be used in the manufacturing of many industrial and consumer products.

High-quality products such as this mantel are constructed of lumber produced from hardwood logs.



From street tree logs, sawmills can manufacture products such as pallets and pallet stock, landscape ties, truck bed stock, fencing, heavy timbers, construction lumber, posts, bridges, and park benches. Furniture grade lumber can also be produced from these logs which can then be used to make products such as mantels and decorative

moldings. Sawmills are the market and opportunity to which street tree logs can be merchandised.



Some of the wood generated from municipal trees holds special potential for unique and figurative characteristics. One example is spalted wood, which results when logs are invaded by certain fungi.

The fungi produce a highly unique coloration and pattern in the wood that is very appealing and special.

Burlwood and crotchwood also have highly unique and figurative characteris-



Unique and figurative designs occur in spalted wood, making it valuable. You may have already had requests from crafters for this type of material.

tics. These types of wood are valuable and are sometimes found in municipal trees that have been traditionally turned into firewood.

The retail price for some of these figurative woods can be as much as four times the retail price for standard lumber used to produce the same product. Crafters seek these types of wood because of the many special effects they give their finished products.



Burls are defects in trees caused by a variety of factors in nature such as a fungi attack. Lumber sawn from burls provides unique and figurative characteristics.



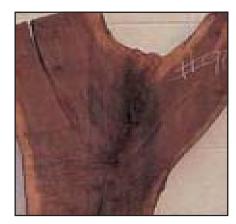
Many types of high-value products can be produced from burlwood. This lamp uses the whole burl in the finished product.

Forks in trees often develop attractive grain patterns which are desirable characteristics for various products. These photos are examples of crotchwood.

Marketing merchantable sawlogs from street tree removals involves working closely with local sawmills.

This butt log is being processed into firewood. If sold as a sawlog, the net return would include time and labor savings, as well as income which could be returned to the street tree management budget.





Generally, the mills using street trees are not typical high-production operations. They are smaller in size and may have different markets and product lines compared to standard production-oriented sawmills.

The keys to marketing street tree logs are:

- 1. Locating local sawmills,
- 2. Working with mills to learn sawlog requirements,
- 3. Making sure the merchantable sawlogs are free of metal and other foreign material,
- 4. Storing sawlogs until a salable quantity is accumulated, and
- 5. Being flexible and persistent enough to try this concept.

III. PRODUCTS & SPECIFICATIONS

Street trees that are at least 12 inches in diameter at breast height (4.5 feet from the ground) and have a log of at least six feet in length have sawlog potential. Normally, the most valuable part of the tree is the first eight to sixteen feet closest to the ground.



This is where the greatest volume of wood is located. It is also where the most valuable wood is found. The first log cut closest to the ground is called the butt log.

A sawmill's raw material requirements are directly influenced by its markets. Consequently, the demand and price for your potential sawlogs depends on this relationship. Knowing what a sawmill requires is an important first step for successfully merchandising sawlogs. Listed below are *general sawlog specifications* which should assist you in determining what a sawmill requires. These are *general* specifications and could vary drastically in your local area.

For example, persimmon is listed as "fair" in species desirability because most sawmills do not have a high demand for these sawlogs. However, in Tennessee there is a large market for persimmon, which centers around its use in manufacturing golf club heads. This drives up the price and demand for persimmon in that region. Similar examples exist for other species such as Osage-orange and mulberry. You must keep in mind that special markets dictate higher values for particular species, depending on local market conditions.

Depending on local market conditions, special markets may dictate higher values for particular species of sawlogs.

A. General Sawlog Specifications

General Species Desirability:

Best: Walnut, Butternut, Ash, Oaks (except Pin Oak),

Cherry, Paulownia

Good: Maples, Elms, most Fruitwoods, Basswood,

Sycamore, Cedar, Poplar

Fair: White Pine and other softwoods, Mulberry, Osage-

orange, Persimmon, Beech

Poor: Gum, Ailanthus, Pin Oak

General Size Requirements:

Best: 16" or larger diameter at small end of log

8' or longer in length

Good: 14" or larger diameter at small end of log

8' or longer in length

Fair: 12" or larger diameter at small end of log

6' or longer in length

(Note: Logs should be generally sound, i.e. relatively free of rot, decay, and holes).

Poor: Small in length and diameter; or large in length and

diameter with many knots, branches, holes, rot, or cracks; or with large or numerous metal objects.

These specifications were designed for municipalities in New Jersey. Specifications could vary drastically, depending on the part of the country you are in.

Metal and other foreign material in street tree sawlogs must be removed or the log should not be sold as a sawlog.

As depicted in these pictures, metal found in street trees comes in all shapes and sizes.

The problem of metal in street tree logs can be overcome by scanning the logs with a metal detector and removing any metal that is found.

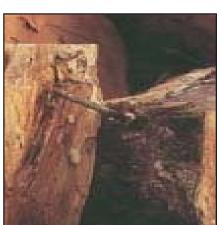
B. Metal and Other Foreign Material in Street Trees

One of the primary reasons why demand for street tree sawlogs has been low in the past is because of metal and other foreign material sometimes found in the logs. The reputation of these logs having metal in them (i.e., nails, wire, spikes, or even car parts) is common among sawmillers.









Metal can become a serious problem during log sawing because it dulls and/or damages saw blades and sawmill equipment. It can also be a safety hazard for workers in a mill because of flying debris when a blade hits large metal objects.

The best way to correct this problem is to scan logs for metal before they go through the sawing process. Standard metal detectors are normally adequate. When metal is discovered, it must be removed. If large quantities of metal are detected in a log, it should not be sold as a sawlog. If a metal-laden log is shipped as part of a load to a sawmill, it will probably be the last load you ever sell to that particular mill.



Following a thorough visual inspection of the sawlog, use a metal detector to carefully scan for metal hidden within the log.

Normally, most metal is located within the first four to six feet of a street tree. This is the section of the tree which people use for hanging signs and securing fencing for yards or pastures. This is also the section that children like to pound nails into. Consequently, butt logs need to be screened more carefully than logs which come from higher up in the tree.

Typical metal detection techniques include a visual inspection of the log surface for metal objects like wire and protruding nails, as well as any discoloration which normally appears as a black/blue stain on the end of the log. Following a thorough visual inspection, a careful scan with a metal detector is needed.



Typical metal detection techniques include a visual inspection and scanning of logs with a metal detector.

The discoloration on the end of this log indicates the presence of metal near the stained area. When metal is seen or detected, appropriate steps are needed to remove it. If metal is located at the end of the log, that part can be sawn off (Illustration 1). If metal is detected toward the middle of the log near the surface, then the section containing the metal can be removed (Illustration 2). Caution is needed to avoid injury. See Appendix A for chainsaw safety procedures. If you do not feel comfortable removing the metal, then mark the area with paint and let the log buyer know it contains metal.

Illustration 1: Remove the end section of the log which contains metal. You do not want to remove too much "good" wood beyond the metal, yet at the same time, you do not want to hit the metal with the chainsaw. If you are uncomfortable removing the metal, let your log buyer show you how.

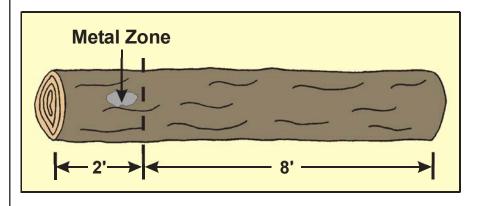
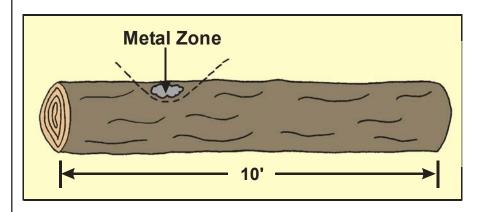


Illustration 2: Remove metal in this area provided that it is not too deep in the log. If metal is located in the first several inches of the log, removal of it will not affect the volume or quality of lumber produced from the log because this section is usually cut off in the sawing process.



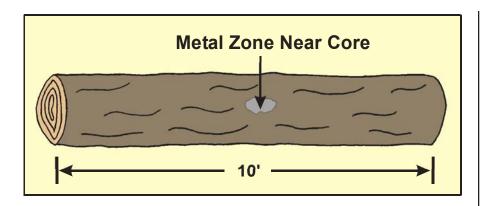
a determination must be made as to whether it is worth removing (Illustration 3). If it isn't, the log should be classified unusable as a merchantable sawlog. It may be best, for the first couple of sales, to discuss these marginal logs with the log buyer.

Depending on where the metal is located and how deep it is in the log,

Metal detectors vary in size, cost, and capability. Some detectors not only tell you where the metal is, but also its depth. If a municipality wants to test the sawlog market initially, a metal detector could be borrowed for log scanning.

After several successful sawlog sales, a metal detector could be purchased specifically for scanning logs. Basic metal detectors range in price from \$250 to \$500.

Safety comes first. To avoid injury, use extreme caution when removing metal.



Listed below are some metal detector manufacturers that can be contacted for specific details:

Fisher Research Laboratory 200 W. Willmott Road Los Banos, CA 92635-5501 Phone: 209-826-3292 FAX: 209-826-0416 Fmail: info@fisherlab.com

Email: info@fisherlab.com Web site: www.fisherlab.com

Garrett Metal Detectors 1881 West State Street Garland, Texas 75042-6797 Phone: 972-494-6151 FAX: 972-494-1881 Email: sales@garrett.com Web site: www.garrett.com

Metal Detectors, Inc. P.O. Box 26440 Eugene, OR 97402 Phone: 541-345-7454 FAX: 541-345-7971

Email:

sales@metaldetectorsinc.com Web site:

www.metaldetectorsinc.com

RENS Metal Detectors 150 East B Avenue P.O. Box 368 Drain, OR 97435 Phone: 541-836-3500 FAX: 541-836-3580

Email: rens@laceyharmer.com Web site: www.laceyharmer.com Tectron Metal Detectors 23621 Ridge Route Dr. Suite A Laguna Hills, CA 92653

Phone: 949-855-9867 or 866-Tectron

FAX: 949-855-4903

Email: solutions@tectron.net Web site: www.tectron.net

Tesoro Electronics 715 White Spar Road Prescott, AZ 86303

Phone: 928-771-@FSNOTES2646

Email: info@tesoro.com
Web site: www.tesoro.com/

White's Electronics 1011 Pleasant Valley Road Sweet Home, OR 97386

Phone: 800-547-6911 or 541-367-6121

FAX: 541-367-6629

Web site: www.whiteselectronics.com

Inclusion in this list does not constitute an endorsement of the company or nor is exclusion intended to reflect adversely upon the reputation of a company.

Illustration 3: When metal is located near the core of the log, removing it would drastically reduce the volume of lumber that could be sawn from the log.

Leaving it could cause considerable damage to sawmill equipment. These types of logs having metal should be clearly marked (see below) and discussed with the log buyer or processed into firewood.



The metal object in this log has been clearly marked to indicate its presence.



Metal detectors like the one in this photo can be purchased from many retail outlets.

Other foreign material which is sometimes found in street tree logs is cement and car parts. Any non-wood material within a log poses serious problems to sawmill operators and equipment in the sawmilling process; therefore, every precaution needs to be taken to ensure that sawlogs are free of foreign materials. This effort alone could make or break the concept of a municipality merchandising logs to a sawmill.

Once a working relationship has been established with a sawmill and the mill manager realizes that you are taking steps to locate and remove metal and other foreign material from your logs, the mill should then become a consistent outlet for your merchantable sawlogs.

C. Proper Log Manufacturing*

In order to maximize the dollar value of street tree sawlogs, it is imperative that they are properly manufactured. The definition of "properly manufactured logs" depends on the requirements specified by the sawmill. However, the following list provides some general guidelines for proper log manufacturing. See Appendix B for additional illustrated information.

- 1. Safety always comes first.
- 2. Follow the sawmill's log specifications correctly.
- 3. Keep log ends straight.
- 4. Cut logs for highest quality. Group defects when possible, preferably near the ends of the logs manufactured.
- 5. Leave trim allowance on all logs in accordance with the sawmill's specifications. Normally, trim allowance is an additional 2", or in other words, a 10' log is actually 10' 2" in length.
- 6. Trim limbs close to the log.
- 7. If the base of a tree is hollow, taking a short log first may make the next log higher in quality. If a large hole is present at the base of the tree, cutting a long log would result in a loss of quality, footage, and money.
- 8. Standard log lengths are 8', 10', 12', 14', & 16' for softwoods and both even and odd lengths between 8' and 16' for hardwoods.
- 9. After a few logs are cut, have the log buyer from the sawmill come to check your logs and show you the mill's method of determining volume.

Properly manufactured logs are the key to maximizing the value of logs from street tree removals.

^{*}Source: More Money for Your Logs When Properly Cut, by W.G. Stump, USDA Forest Service, NA S&PF, Upper Darby, PA.

D. Log Quantities and Volume Determination

The sawmill will normally require a certain quantity of logs before a log truck is sent to your yard to pick them up. A standard log truck can legally transport about 2,500 to 3,500 board feet of logs measured by the International 1/4 Inch Log Scale Rule. One board foot is a piece of wood that is 12" wide by 12" long by 1" thick.

International 1/4 Inch Log Scale Rule is one of several log scales used in the United States to estimate the amount of lumber on a board foot basis which can be sawn from logs. To determine what log scale is used in your area, contact a local sawmill. For the purpose of this publication, we have assumed it is the International 1/4 Inch Log Scale Rule.



Sawlog volumes can easily be determined using a scaling stick.

The easiest way to estimate board foot volumes of logs is to measure them with a scaling stick. Although scaling logs might sound complicated, it is quite easy.

In order to scale logs, you need to know several things. They are:

- 1. Inside bark diameter of small end of log,
- 2. Length of log to nearest foot, and
- 3. Estimated amount of non-solid wood in logs (i.e. rot, decay, crookedness, etc.).

A scaling stick is a tool that enables you to determine the board foot volume of a log. It lists volumes based on the inside bark diameter of the small end of the log and its length. Thus, if a log measures 18 inches in diameter at the small end and it is 12 feet in length, you can refer to the scaling stick to determine that the board foot volume of the log is 170 board feet.

Knowing sawlog volumes will assist you in determining when you have a salable quantity of sawlogs.

When scaling a log, you need to measure the inside bark diameter of the small end and its overall length. You must also determine the approximate percent of volume loss that will result from decay, sweep, holes, etc.



If a scaling stick is not available, volume can still be determined by referring to a log volume table.

See table below for details.

International 1/4 Inch Log Scale Table*

Small end	Length of Log (feet)					
Diameter	6	8	10	12	14	16
(Inches)	Contents in Board Feet					
6	5	10	10	15	15	20
7	10	10	15	20	25	30
8	10	15	20	25	35	40
9	15	20	30	35	45	50
10	20	30	35	45	55	65
11	25	35	45	55	70	80
12	30	45	55	70	85	95
13	40	55	70	85	100	115
14	45	65	80	100	115	135
15	55	75	95	115	135	160
16	60	85	110	130	155	180
17	70	95	125	150	180	205
18	80	110	140	170	200	230
19	90	125	155	190	225	260
20	100	135	175	210	250	290
21	115	155	195	235	280	320
22	125	170	215	260	305	355
23	140	185	235	285	335	390
24	150	205	255	310	370	425
25	165	220	280	340	400	460
26	180	240	305	370	435	500
27	195	260	330	400	470	540
28	210	280	355	430	510	585
29	225	305	385	465	545	630
30	245	325	410	495	585	675

Note: The diameter to be used is the inside bark diameter of the small end of the log.

^{*}Source: Reference Handbook for Foresters, USDA Forest Service, NA S&PF, NA-FR-15, Sept. 1989.

Both the scaling stick and table volumes assume that the log is solid and has no defects. If defects are present or if a section of the log is missing, a volume reduction is necessary. To estimate this reduction, ask the log buyer to explain how to estimate volume reductions or refer to the USDA Forest Service publication, Grading Hardwood Logs for Standard Lumber. This publication describes the process of log grading, log scaling, and methods for determining scaling reductions. Copies may be obtained by contacting the Forest Service at the address below:

> USDA Forest Service 1720 Peachtree Road, NW Atlanta, GA 30309 Phone: 404-347-7206 FAX: 404-347-2776

Web site: www.southernregion.fs.fed.us

Remember, you will not be measuring logs as accurately as a sawmill. The purpose of your log scaling is to give you an idea of how much log volume you have.

Log scaling sticks and tally sheets (forms for recording log volumes) can be purchased from the following companies:

Ben Meadows Company

P.O. Box 5277

Janesville, WI 53547-5277

Phone: 800-241-6401

FAX: 800-628-2068 Email: mail@benmeadows.com

Web site: www.benmeadows.com

205 W. Rankin Street P.O. Box 8397

Jackson, MS 39284-8397 Phone: 800-647-5368 FAX: 800-543-4203

Forestry Suppliers, Inc.

Email: fsi@forestry-suppliers.com Web site: www.forestry-suppliers.com

E. Storage Requirements

As stated earlier, in order for a sawmill to pick up a load of sawlogs, the mill will need a predetermined quantity of logs. This quantity will depend on the size of the truck. Therefore, the sawmill will give you an estimated volume figure that their log truck can legally handle. For example, if a sawmill's truck can safely transport about 3,000 board feet (bf) of oak logs at one time, and one 18" x 12' log is 170 bf, then about 18 oak logs of this size would be the approximate load for this truck.

Maximum load limits are based on weight. Consequently, the quantity of logs shipped on a log truck will vary depending on the species mix. moisture content, log size, etc. For example, red oak logs are heavier than basswood; therefore, fewer red oak logs of the same size can be transported as the same size basswood logs.

If you know the approximate board foot volume of logs your sawmill's truck can handle, you can better determine when you have a truck load of logs ready for pick up.

The storage area at this municipal yard is relatively small, yet there is enough room to store a truck load of logs.



Keep in mind that you will need a storage area for the logs somewhere in the municipality. Depending on topography, one-fourth

acre of flat land could be sufficient, provided that a log truck can easily park next to the logs.

Adequate log storage space is critical to successfully market your sawlog material. Here, sawlogs were stored by the municipality until enough logs were accumulated for a truck load.



F. Log Loading and Unloading Safety Procedures

Safety should always be the number one priority when dealing with heavy, movable materials such as logs. The Occupational Safety and Health Administration (OSHA) has regulations pertaining to safety in logging operations. Within these regulations, log loading and unloading procedures are identified. Consult Appendix A for a listing of the logging operation safety procedures.

IV. MARKETING MERCHANTABLE SAWLOGS

A. Commercial Sawmill Operations

Although typical production-oriented sawmills shy away from street tree logs, some, particularly the smaller mills (such as a mill that saws less than 1.5 million board feet per year), may purchase them. Normally, sawmills located near urban and suburban areas are relatively small and may be best suited for your needs. In fact, some urban and suburban mills actively buy street tree logs (see Case Study on page 27). There are many ways to locate potential sawmills interested in buying street tree logs. The easiest ways include contacting the following:

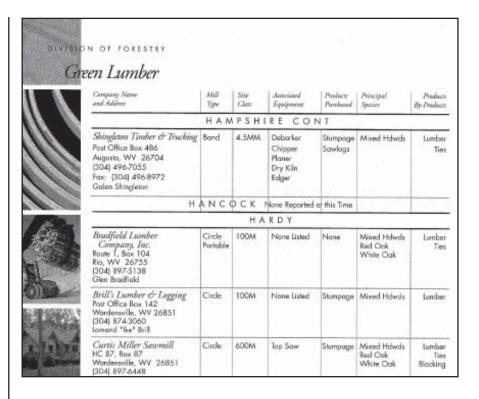
- 1. State Forestry Offices
 - Sawmill Directories
 - Marketing Bulletins
- 2. Consulting Foresters
- 3. Forestry/Wood Products Extension Offices
- 4. Resource Conservation & Development (RC&D) Program
- 5. Word-of-Mouth

1. State Forestry Offices

Most state forestry offices have staff specialists who work closely with the forest products industries of the state. These individuals may be able to direct you to sawmills that buy street tree logs. The addresses and phone numbers of the forestry offices are listed in Appendix C. When contacting a state forestry office, ask to talk with a forest products utilization and marketing specialist. These specialists are generally the best source of assistance in helping you make contact with sawmills.

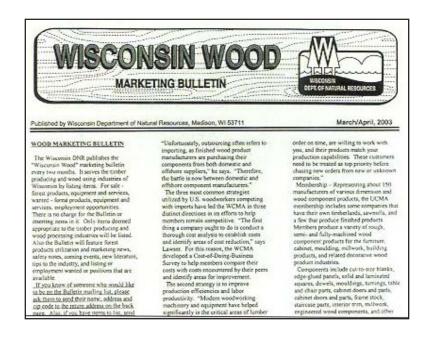
A service which most state forestry agencies provide is the publication of a state-wide sawmill directory. Normally, these directories list sawmills by county and include helpful information about each. Consulting this type of directory is a good way to locate sawmills in your area. Contact your state forestry office for a copy.

Marketing street tree sawlogs depends on locating cooperative sawmills in your area. Sawmill directories are helpful because they allow you to learn more about the sawmills located near you. This example is from the West Virginia Forest Industry Directory.



Another service that some state forestry agencies offer is a monthly or quarterly marketing bulletin. State marketing bulletins serve as an avenue that connects suppliers and buyers of wood products with each other.

Advertisements about your available logs can be placed in your state's marketing bulletin. Normally, there is no charge for advertising. Appendix D lists state forestry offices that publish a marketing bulletin.



Advertising in state marketing bulletins can be an effective method for locating log buyers. To place an ad, simply contact the appropriate state forestry office.

2. Consulting Foresters

Consulting foresters provide forestry services and expertise to landowners for a fee agreed to by the landowner and forester. Consulting foresters are usually familiar with sawmills in their work area. They may be able to direct you to potential sawmills interested in purchasing your logs. Many state forestry offices (Appendix C) maintain listings of consulting foresters in their individual states. Also, the Association of Consulting Foresters of America, Inc., maintains a detailed directory of its members' services. A copy can be purchased by contacting them at the following address:

The Association of Consulting Foresters of America, Inc. 732 North Washington Street, Suite 4-A
Alexandria, Virginia 22314-1921
Phone: 703-548-0990

FAX: 703-548-6395 Email: director@acf-foresters.com Web site: www.acf-foresters.com

3. Forestry/Wood Products Extension Offices

Many land grant universities employ forestry/wood products extension specialists as part of their forestry/wood technology programs. These professionals can provide information pertaining to sawmills located in your area. Appendix E lists the land grant universities that employ forestry/wood products extension specialists.

4. RC&D Program

The RC&D program is a national program that assists rural communities in improving their economies through wise use and development of natural resources. Each RC&D area has a full-time coordinator who oversees the daily program operations. Many coordinators are familiar with sawmills in their area (which usually consists of several counties). They may be able to provide you with names and addresses of sawmills that might purchase your logs. Appendix F lists the individual state-wide RC&D program administration offices.

There are many ways to locate sawmills that purchase street tree logs.

5. Word-of-Mouth

Another way to locate sawmills willing to purchase street tree logs is by word-of-mouth. For instance, employees of other municipalities and tree care companies may be able to direct you to potential buyers. Remember, there may be potential buyers in your backyard, it's just a matter of being aware of who they are.

B. Local Crafters/Hobbyists/Custom Sawmillers

Beyond commercial sawmills, many hobbyists and crafters are interested in purchasing unique logs for their hobbies and/or profession. Those who have portable bandmills are often interested in purchasing small quantities of sawlogs to cut into lumber. For example, spalted logs are highly desirable for their beauty and income potential once turned into finished products. Consequently, hobbyists or crafters seeking this type of material can become a good market for your logs. Some ways of locating these people are:

- 1. State Forestry Offices
- 2. Sawmill Equipment Manufacturers
- 3. Craft Organizations
- 4. Word-of-Mouth
- 5. The Internet

1. State Forestry Offices

Your state forestry agency's forest products utilization and marketing specialist may be able to direct you to potential crafters/hobbyists/custom sawmillers who are interested in street tree logs. See Appendix C.

2. Sawmill Equipment Manufacturers

Portable or small-size sawmill manufacturers usually maintain lists of customers that have bought their mills. Often, they are willing to share these lists with potential customers of their mills. If you contact these manufacturers and explain that you want to market sawlogs and are looking for potential buyers, they may share their lists with you. For a listing of portable sawmill manufacturers see Appendix G.

Crafters, hobbyists, and custom sawmillers are potential buyers of street tree logs.

3. Craft Organizations

Most states have some type of state-wide craft organization. Usually, these organizations include crafters who produce specialty wood products. Some of these individuals produce lumber for their own needs. If not, they purchase it. Regardless, these individuals may be able to direct you to small-scale sawmill operators who are interested in purchasing street tree logs. A list of state-wide craft organizations is found in Appendix H.

4. Word-of-Mouth

Many good contacts generated come via word-of-mouth. Do not overlook the knowledge of employees from surrounding municipalities.

5. The Internet

As Internet usage continues to grow, conducting periodic searches on subjects such as urban wood utilization, urban logs, via various Internet search engines may provide you with additional contacts and/or guidance in regard to moving your sawlogs.

Portable sawmills offer crafters and other small business people the opportunity to process logs to their desired specifications. Consequently, companies with these types of mills may be a valuable market for your street tree logs.



Photo courtesy of Wood-Mizer Products, Inc.

Although portable bandmills are not "high" production mills as are conventional bandmills and circular mills, they are capable of processing street tree logs. Portable bandmill blades are thin, have many teeth, and are relatively inexpensive. Because of this, hitting metal is usually not as damaging and/or costly because the blade can be replaced at a moderate price.

C. In-house Markets: Viable Options for Municipalities

Today's portable sawmill technology allows municipalities to produce products from street tree removals for their own use. These portable mills are relatively easy to operate and maintain and are usually priced in the \$12,000 to \$25,000 range. These mills can produce landscape ties, truck bed material, and a broad range of lumber products to satisfy municipal needs. The portable sawmill manufacturers listed on pages 22 and 23 can provide detailed information about costs, production rates, maintenance, and use of these machines.

Some municipalities may want to consider purchasing a portable sawmill for processing their own street tree logs. Many of today's portable sawmills are small-scale bandmills. This type of mill is more tolerant of occasionally hitting a nail or piece of metal than a conventional mill is. If a blade is ruined because of hitting metal, it can be replaced with a new blade. The cost is normally less than \$30 for a portable bandmill blade.

V. CASE STUDIES

Case Study A. M&A Tree Service, Garwood, NJ

Following is an example of how a tree service company began utilizing municipal street tree removals profitably.

M&A Tree Service started business seven years ago by providing a standard array of tree service activities, including tree removal and tree maintenance work for both private and public customers. Typically, a tree removal job involved taking the diseased, dead, or hazardous tree down in sections and then cutting the limbs and trunk into short "firewood-size chunks." One by one, these chunks were loaded into trucks for transport to the company's storage yard firewood pile.

This hard labor was followed by more, including handling, splitting, and repiling the wood as firewood for sale. After the wood air dried enough for sale, it was loaded onto a truck for delivery and stacking at the customer's location.

Mike Tomaio, owner of M&A Tree Service, got very tired of the strenuous labor of processing, lifting, and hand-loading firewood.



Typically, log rounds that will be cut into firewood are piled prior to splitting. This work can be very hard and hazardous.

"In particular, the back-breaking work of firewood was never really economically worth all the effort, especially since the price for firewood around here has dropped significantly," Mr. Tomaio said.

Three years ago, New Jersey Forestry Services contacted M&A Tree Service to explain the "Municipal Forest Products Marketing Service" program the state was undertaking. Mr. Tomaio was visited and introduced to the idea of producing and marketing tree removals to local sawmill markets. Particular specifications of species, size, and length were provided in addition to a list of potential customers for these products. All the considerations for log production, transportation, storage, and quality control were discussed.

After visiting a few sawmills to get a look at the kind of material they were using, Mr. Tomaio realized that many of the trees he was sawing into firewood from his tree removals were every bit as good, and some a lot better, than the logs in the mills' sawlog storage yards. It was then that he decided that the idea was worth a try.

Although the mills seemed interested in working with him, Mike found that the best way for him to operate was to provide the logs for full load mill pick up at his own storage yards in northern New Jersey. With the purchase of a cab-mounted, knuckleboom log loader, the plan turned into reality.

Most of the logs that in the past went into the firewood pile or were taken to the dump now get boom loaded and delivered to M&A's sawlog yard. Firewood is still produced from the upper sections and large branches, but the good logs don't get cut into firewood anymore. The company's work force, which varies from 5 to 15 people depending on the time of year, spends less time working a tree down and a lot less back-breaking work loading big log chunks into trucks.

Mr. Tomaio has been able to sell as much sawlog material as his crews can produce. In fact, he's now picking up and marketing sawlogs produced by other tree service businesses and municipalities, as well. He works with about a dozen private businesses and municipalities in the area by hauling logs they generate from their tree removal work.

About 2-3 tractor trailer loads of logs per week are produced during the busy season. These logs come from city streets, local parks, and residential areas.

Mr. Tomaio has found that oak, ash, walnut, hickory, and pine are the best movers for him. Logs that are too rotten for use or those that appear to have metal too deep to remove get cut into firewood or worked into mulch at stump grinding facilities located throughout the state.

Mr. Tomaio gets a strong sense of satisfaction knowing that these trees are being put to good use. He's seen these logs being sawn into high-quality furniture lumber, truck bed stock, landscape ties, fireplace mantels, and many other kinds of products. In most cases, his tree removal work involves trees that are already dead. For every log he markets from the urban resource, it means one less that has to be cut out of the forest.

"Since I've started doing this, I guess I've shipped several thousand logs to sawmills around the state. It's good for business, good for the sawmills, and good for the environment, too," said Mr. Tomaio.

Producing and marketing sawlogs is good for business and the environment.

These street tree logs are ready for the trip to the sawmill where they will be used as raw material for a broad range of industrial and consumer products.

Case Study B. Willard's Sawmill, Trenton, NJ

Following is an example of how a tree service company began utilizing sawlog-size street trees profitably. Today, the tree service company also operates a sawmill.

Sam Willard started Shearer Tree Service Company in 1949. Employing approximately 40 people, his company is involved in normal arboreal services such as pruning, planting, spraying, removal and maintenance.



Much of the wood in this photo was once destined for a landfill. Now, most of it is processed into usable products.

In 1974, the company was paying about \$20,000 a year in landfill fees to dispose of tree removals. Because the wood waste was noncompactible and bulky in nature, and because landfill rates were expected to steadily increase, Mr. Willard began to explore other options for his wood waste.

Mr. Willard began his effort with the purchase of a used Frick circular sawmill along with an edger, crosscut saw, planer, stake pointer, and metal detector. Instead of hauling his tree removal material to landfills, he began processing the sawlogs through the mill and converting the tops to firewood. Lumber, timbers, and nursery and survey stakes were the original products manufactured.



Nursery and survey stakes were some of the first products manufactured by Mr. Willard from street tree logs.

The mill has evolved since its first days of operation and now includes a dry kiln and the capability to make free-form furniture, clocks, planters, and decorative plaques.

These products are made possible with the use of an "Alaskan Mill" sawing system. This specialized machinery basically consists of a metal frame with guide rollers, two chainsaw power drives, and a large ripping chain.

The logs are first scanned with a metal detector before any processing is attempted. Metal in the form of nails, spikes, or barbed wire is a common component of logs acquired in tree service work. Once located by the metal detector, the metal is removed. This can be a time-consuming process. However, this particular mill does not concern itself with high production, so the extra time taken to remove metal from logs is well spent. Logs are processed on a lumber order basis, and only high-grade lumber is kept in inventory.

Logs suitable for processing through the Alaskan Mill are elevated at one end and diagonally cut with the rip chain which results in thick, matched slabs. Large stumps and abnormal tree butts are also sawn in this fashion, creating unique and decorative patterns. This type of sawing accentuates the wood grain in such a way that the pattern normally produced is quite unlike that shown in standard-sawn lumber.

The cut slabs are used as the raw material for free-form furniture styles: tables of all kinds and sizes, bar and counter tops, plaques, clocks, and many other highly decorative items. Variations in species, grain pattern, color and figure greatly enhance the free-form product's marketability. Mr. Willard's suburban location has proved to be a good site for marketing such specialty products to homeowners in the

area.

These diagonally cut slabs could

The diagonally cut slabs that are produced are stickered and air dried before kiln drying. The operator

uses a small West Air kiln system for drying these thick slabs. Kiln schedules are a very important facet of the operation because the product must be free of any drying defects such as checks or splits if it is to bring the maximum price.

easily be turned into beautiful clocks or plaques by a hobbyist or a crafter.



The logs, once cut into slabs, are stacked and air dried. Eventually, they will be placed in a kiln for the final drying process.

Normal kiln schedules had to be adapted to fit this particular type of material. After kiln drying, the slabs are sanded and sold "as is" or are processed into finished free-form furniture items.

Willard's Sawmill is a classic example of how urban tree removal material can be processed and marketed. His products are a response to the specific and somewhat unique type of raw material handled.

Mr. Willard's operation utilizes every part of a municipal street tree. Logs are processed either through the sawmill or Alaskan Mill into usable lumber, large topwood is marketed as firewood, branches are chipped and sold as mulch, and the sawdust from the mill is sold to local horse owners for use as bedding. This unique urban sawmill is one answer to the problem of municipal street tree utilization.



This coffee table was made from slabs of walnut lumber and is an example of the kind of free-form furniture that can be produced from street trees. The piece is both functional and unique.

Case Study C. CitiLog, Ewing, NJ

It was after watching a 100-year old oak street tree be cut up for firewood that Stubby Warmbold realized the opportunity existed to capture more value from urban tree removals. In 1992, Mr. Warmbold started a company in Ewing, New Jersey, to pursue this opportunity. The company would later be named CitiLog.

"I look at a log and see revenue, someone in the tree service business looks at the same log and sees disposal costs," explained

Stubby Warmbold.



The company's logs are primarily procured through the collection of "municipal wood." The trees are removed by independent tree removal services and are gathered at a central log yard facility in Irvington, New Jersey. Here they are sorted, stacked, and inspected for quality. Logs that do not make the grade are sold to cogeneration plants for fuel. The higher quality logs are scanned with a metal detector and any metal discovered is removed

The higher quality logs are loaded on railroad cars and transported

by train to Central Pennsylvania for further processing. The logs are sent to one of three Amish sawmills, two of which are band mills and the other a circular mill. Prior to being sawn, the logs are once again scanned to locate and remove any metal objects.

Tree service companies drop off their logs at CitiLog's yard to reduce their costs. Disposing of their logs for free improves their bottom line.

Logs are loaded onto railroad cars at CitiLog's New Jersey yard to be transported to Pennsylvania where they will be made into a variety of products. The railroad provides an economical way to transport logs.



The wood is sent to various Amish businesses and craftsmen. The low-grade material is used for pallet stock and cross ties. The high-grade material is used to create custom cabinets. doors, flooring, furniture, moulding, and a variety of other wood products. Orders have ranged in size from a single book cabinet to providing the wood needed for a new addition to the Woods Hole Research Institute headquarters building in Woods Hole, Massachusetts.

It was not until 1998 that Mr. Warmbold began to focus on the production of higher value-added products. Up to this time, most of his wood went into the production of pallet stock and cross ties. He realized the importance of finding the best application for his



Stubby Warmbold inspects ginkgo logs that came from the University of Pennsylvania. The logs will be used to make a reception desk for the University.

material that would reap the greatest return. To do this, he began channeling his higher-grade material into higher-value products. At the same time, he stresses the importance of developing a good market to absorb the low-grade material.

In 2001, with financial assistance from the USDA Forest Service Rural Development through Forestry Program, CitiLog had its wood and wood products certified by SmartWood's Rediscovered Wood Program

(www.smartwood.org). This particular certification program is designed to encourage the reuse of wood and wood products that have been reclaimed, recovered, salvaged, or recycled, by assuring consumers that the company's products come from sustainable sources. Mr. Warmbold believes



These are just some of the high quality hand crafted products produced from CitiLog's wood. If not for the efforts of CitiLog and other companies like it, urban logs like the ones that produced these products would have most likely been buried, burned, or chipped.

his company's certification has driven demand. By servicing this niche, it has opened up other uses for his wood material besides pallet stock and cross ties.

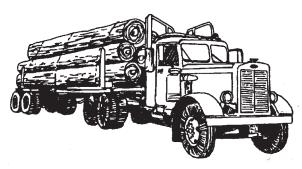
The company receives most of its business by word of mouth. Mr. Warmbold explains that the certified wood community is small and word travels quickly. Since CitiLog offers most of its certified products at market prices, consumers are quick to choose them over non-certified products.

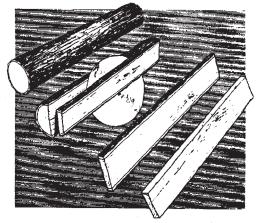
Mr. Warmbold sees endless possibilities for CitiLog. He plans to take what he has learned and the contacts he has made and duplicate this operation in other cities. He believes his business is good for the environment and also supports skilled artisans and small-scale production in local communities. And as an urban business, it provides jobs for the inner-city populace who work in the collection, warehousing, and distribution of the logs and wood products.

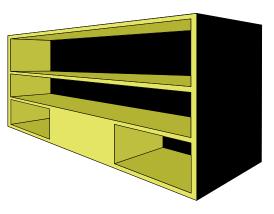
VI. APPENDICES

The following appendices contain additional information and contacts that may be useful in instituting a street tree removal recycling program.









Appendix A: Safety Procedures for Logging Operations

Listed below are a selected number of safety procedures produced by the United States Department of Labor, Occupational Safety and Health Administration (OSHA). The safety procedures are from Standard 1910.266 for Logging Operations. A complete listing can be found on the following OSHA web site: (www.osha.gov/SLTC/logging_advisor/standards/standards.html).

Overhead electric lines — 1910.266(d)(8)

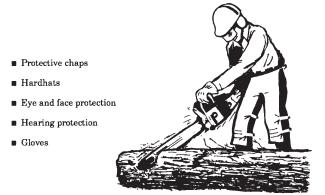
- (i) Logging operations near overhead electric lines shall be done in accordance with the requirements of 29 CFR 1910.333(c)(3).
- (ii) The employer shall notify the power company immediately if a felled tree makes contact with any power line. Each employee shall remain clear of the area until the power company advises that there are no electrical hazards.

Chain saws — 1910.266(e)(2)

- (i) Each chain saw placed into initial service after the effective date of this section shall be equipped with a chain brake and shall otherwise meet the requirements of the ANSI B175.1-1991 "Safety Requirements for Gasoline-Powered Chain Saws", which is incorporated by reference as specified in Sec. 1910.6. Each chain saw placed into service before the effective date of this section shall be equipped with a protective device that minimizes chain-saw kickback. No chain-saw kickback device shall be removed or otherwise disabled.
- (ii) Each gasoline-powered chain saw shall be equipped with a continuous pressure throttle control system which will stop the chain when pressure on the throttle is released.
- (iii) The chain saw shall be operated and adjusted in accordance with the manufacturer's instructions.
- (iv) The chain saw shall be fueled at least 10 feet (3 m) from any open flame or other source of ignition.
- (v) The chain saw shall be started at least 10 feet (3 m) from the fueling area.
- (vi) The chain saw shall be started on the ground or where otherwise firmly supported. Drop starting a chain saw is prohibited.
- (vii) The chain saw shall be started with the chain brake engaged.



- (viii) The chain saw shall be held with the thumbs and fingers of both hands encircling the handles during operation unless the employer demonstrates that a greater hazard is posed by keeping both hands on the chain saw in that particular situation.
- (ix) The chain-saw operator shall be certain of footing before starting to cut. The chain saw shall not be used in a position or at a distance that could cause the operator to become off-balance, to have insecure footing, or to relinquish a firm grip on the saw.
- (x) Prior to felling any tree, the chain-saw operator shall clear away brush or other potential obstacles which might interfere with cutting the tree or using the retreat path.
- (xi) The chain saw shall not be used to cut directly overhead.
- (xii) The chain saw shall be carried in a manner that will prevent operator contact with the cutting chain and muffler.
- (xiii) The chain saw shall be shut off or the throttle released before the feller starts his retreat.
- (xiv) The chain saw shall be shut down or the chain brake shall be engaged whenever a saw is carried further than 50 feet (15.2 m). The chain saw shall be shut down or the chain brake shall be engaged when a saw is carried less than 50 feet if conditions such as, but not limited to, the terrain, underbrush and slippery surfaces, may create a hazard for an employee.



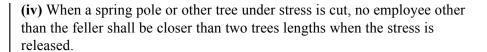
Tree harvesting — 1910.266(h)(1)

- (i) Trees shall not be felled in a manner that may create a hazard for an employee, such as but not limited to, striking a rope, cable, power line, or machine.
- (ii) The immediate supervisor shall be consulted when unfamiliar or unusually hazardous conditions necessitate the supervisor's approval before cutting is commenced.

- (iii) While manual felling is in progress, no yarding machine shall be operated within two tree lengths of trees being manually felled. Exception: This provision does not apply to yarding machines performing tree pulling operations.
- (iv) No employee shall approach a feller closer than two tree lengths of trees being felled until the feller has acknowledged that it is safe to do so, unless the employer demonstrates that a team of employees is necessary to manually fell a particular tree.
- (v) No employee shall approach a mechanical felling operation closer than two tree lengths of the trees being felled until the machine operator has acknowledged that it is safe to do so.
- (vi) Each danger tree shall be felled, removed or avoided. Each danger tree, including lodged trees and snags, shall be felled or removed using mechanical or other techniques that minimize employee exposure before work is commenced in the area of the danger tree. If the danger tree is not felled or removed, it shall be marked and no work shall be conducted within two tree lengths of the danger tree unless the employer demonstrates that a shorter distance will not create a hazard for an employee.
- (vii) Each danger tree shall be carefully checked for signs of loose bark, broken branches and limbs or other damage before they are felled or removed. Accessible loose bark and other damage that may create a hazard for an employee shall be removed or held in place before felling or removing the tree.
- (viii) Felling on any slope where rolling or sliding of trees or logs is reasonably foreseeable shall be done uphill from, or on the same level as, previously felled trees.

Manual felling — 1910.266(h)(2)

- (i) Before felling is started, the feller shall plan and clear a retreat path. The retreat path shall extend diagonally away from the expected felling line unless the employer demonstrates that such a retreat path poses a greater hazard than an alternate path. Once the backcut has been made the feller shall immediately move a safe distance away from the tree on the retreat path.
- (ii) Before each tree is felled, conditions such as, but not limited to, snow and ice accumulation, the wind, the lean of tree, dead limbs, and the location of other trees, shall be evaluated by the feller and precautions taken so a hazard is not created for an employee.
- (iii) Each tree shall be checked for accumulations of snow and ice. Accumulations of snow and ice that may create a hazard for an employee shall be removed before felling is commenced in the area or the area shall be avoided.



- (v) An undercut shall be made in each tree being felled unless the employer demonstrates that felling the particular tree without an undercut will not create a hazard for an employee. The undercut shall be of a size so the tree will not split and will fall in the intended direction.
- (vi) A backcut shall be made in each tree being felled. The backcut shall leave sufficient hinge wood to hold the tree to the stump during most of its fall so that the hinge is able to guide the tree's fall in the intended direction.
- (vii) The backcut shall be above the level of the horizontal facecut in order to provide an adequate platform to prevent kickback. Exception: The backcut may be at or below the horizontal facecut in tree pulling operations.

Note to paragraph (vii): This requirement does not apply to open face felling where two angled facecuts rather than a horizontal facecut are used.



- (i) Limbing and bucking on any slope where rolling or sliding of trees or logs is reasonably foreseeable shall be done on the uphill side of each tree or log.
- (ii) Before bucking or limbing wind-thrown trees, precautions shall be taken to prevent the root wad, butt or logs from striking an employee. These precautions include, but are not limited to, chocking or moving the tree to a stable position.

Loading and unloading — 1910.266(h)(6)

- (i) The transport vehicle shall be positioned to provide working clearance between the vehicle and the deck.
- (ii) Only the loading or unloading machine operator and other personnel the employer demonstrates are essential shall be in the loading or unloading work area during this operation.
- (iii) No transport vehicle operator shall remain in the cab during loading and unloading if the logs are carried or moved over the truck cab, unless the employer demonstrates that it is necessary for the operator to do so. Where the transport vehicle operator remains in the cab, the employer shall provide operator protection, such as but not limited to, reinforcement of the cab.



- (iv) Each log shall be placed on a transport vehicle in an orderly manner and tightly secured.
- (v) The load shall be positioned to prevent slippage or loss during handling and transport.
- (vi) Each stake and chock which is used to trip loads shall be so constructed that the tripping mechanism is activated on the side opposite the release of the load.
- (vii) Each tie down shall be left in place over the peak log to secure all logs until the unloading lines or other protection the employer demonstrates is equivalent has been put in place. A stake of sufficient strength to withstand the forces of shifting or moving logs, shall be considered equivalent protection provided that the logs are not loaded higher than the stake.
- (viii) Each tie down shall be released only from the side on which the unloading machine operates, except as follows:
- (viii)(A) When the tie down is released by a remote control device; and
- (viii)(B) When the employee making the release is protected by racks, stanchions or other protection the employer demonstrates is capable of withstanding the force of the logs.

Transport — 1910.266(h)(7)

(i) The transport vehicle operator shall assure that each tie down is tight before transporting the load. While enroute, the operator shall check and tighten the tie downs whenever there is reason to believe that the tie downs have loosened or the load has shifted.

Storage — 1910.266(h)(8)

(i) Each deck shall be constructed and located so it is stable and provides each employee with enough room to safely move and work in the area.

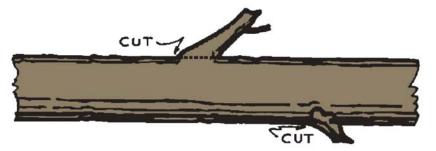
For additional information on chainsaw safety procedures and log loading and unloading safety procedures, contact:

Forest Resources Association, Inc. 600 Jefferson Plaza, Suite 350 Rockville, Maryland 20852 Phone: 301-838-9385 FAX: 301-838-9481

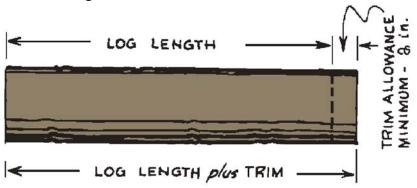
Email: fra@forestresources.org Website: www.forestresources.org

Appendix B: Proper Log Manufacturing

The illustrations below show methods for properly manufac-turing sawlogs which will be processed into standard lumber products. They are from More Money for Your Logs When Properly Cut, by W.G. Stump, USDA Forest Service, North-eastern Area, State & Private Forestry, Upper Darby, PA.



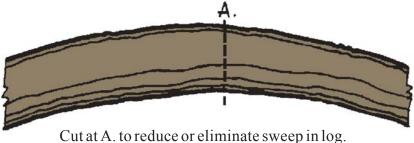
Logs with handles do not roll. Cut limbs off close to log for easier handling.

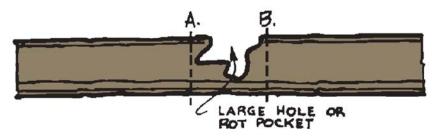


Always cut logs at least 2" longer. This is called trim allowance. Check with buyer before cutting logs to be sure of required trim allowance.

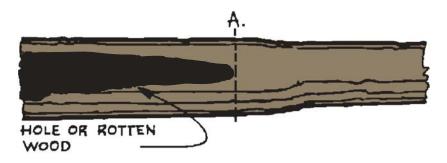


Normally, logs should be cut in back of crotch at A. However, this may not be true where a market exists for crotch wood.

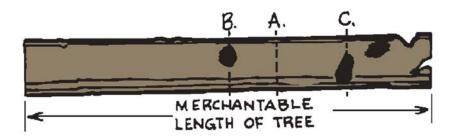




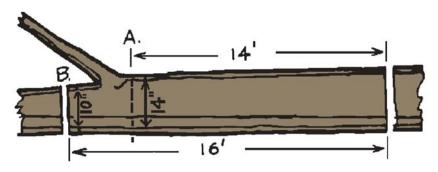
Make 2 logs. Cut at A. and B. if each log can be made 8 feet or longer.



Cut at A. to avoid loss of footage.



Keep logs as free from defects as possible. Do not cut at A. Cut at B. and C. to make 2 clear logs.



Cutting at A. instead of B. yielded an additional 50 board feet of lumber.

Appendix C: State Forestry Offices

Most state forestry agencies have staff personnel with expertise in forest products utilization and marketing. These specialists will be able to assist you in locating sawmills in your area. Furthermore, most state forestry agencies publish some type of forest products directory(s) that could be of assistance to you. These directories have traditionally been oriented toward sawmills and primary processors of wood products. Listed below in italicized type are the names of the directories, which include sawmills and manufacturers of primary wood products. To speak with a forest products utilization and marketing specialist or to obtain copies of directory(s), contact the appropriate agency.

Alabama:

Directory of Alabama's Forest Industry

Alabama Forestry Commission 513 Madison Avenue P.O. Box 302550 Montgomery, AL 36130-2550 Phone: 334-240-9300

FAX:334-240-9390

Web site: www.forestry.state.al.us

Alaska Wood Products Manufacturers Directory

Juneau Economic Development Council Wood Products Development Service 204 Siginaka Way Sitka, Alaska 99835 Phone: 907-747-5688 FAX:907-747-4331

Web site: www.jedc.org/wood.htm

Division of Forestry 550 W. Seventh Ave., Suite 1450 Anchorage, Alaska 99501-3566 Phone: 907-269-8474 FAX:907-269-8931 Web site:

www.dnr.state.ak.us/forestry/

Arizona:

Wood Products Trade Information

Forestry Section Fire Management Division Arizona State Land Department Flagstaff, AZ 86001 Phone: 602-774-1425 FAX:602-779-2143

Arkansas:

Arkansas Forest Industry Directory

Arkansas Forestry Commission 3821 West Roosevelt Road Little Rock, AR 72204 Phone: 501-296-1940 FAX: 501-296-1949

Web site: www.forestry.state.ar.us

California:

Forest Products Marketing Directory

Department of Forestry & Fire Protection P.O. Box 944246 Sacramento, CA 94244-2460 Phone: 916-653-9449 FAX:916-653-8957 Web site: www.fire.ca.gov/php/index.php

Colorado:

Forest Products Directory

State Forest Service Colorado State University 203 Forestry Building Fort Collins, CO 80523-5060 Phone: 303-491-6303 FAX:303-491-7736 Web site:

www.colostate.edu/Depts/CSFS/

Connecticut:

Primary Processing Directory

Division of Forestry Department of Environmental Protection 79 Elm Street Hartford, CT 06106-5127 Phone: 860-424-3630 FAX: 860-424-4070 Web site:

http://dep.state.ct.us/burnatr/forestry/

Wood Industry Directory - MA, CT, RI

Southern New England Forest Consortium Inc. P.O. Box 760

Chepachet, RI 02814

Phone: 401-568-1610, 1-800-722-TREE

FAX: 401-568-7874 Email: info@SNEFCI.org Web site: www.snefci.org

Delaware:

Wood Industry Directory

Web address: www.state.de.us/ deptagri/forestry/conser.htm#WoodUtil

Forestry Section Department of Agriculture 2320 South Dupont Highway Dover, DE 19901

Phone: 302-698-4500 FAX: 302-697-6245

Web site:

www.state.de.us/deptagri/forestry/

Florida:

Florida Wood Using Industry Directory

Division of Forestry Department of Agriculture & Consumer Services 3125 Conner Blvd. Tallahassee, FL32399-1650 Phone: 904-488-6611

Web site: http://www.fl-dof.com

FAX:904-921-6724

Georgia:

Georgia Wood Using Industries & Forest Products Marketing Directory

Georgia Forestry Commission Forest Information and Urban and Community Forestry P.O. Box 819

Macon, GA 31202-0819 Phone: 478-751-3523 FAX: 478-751-3559

Email: fpumd@gfc.state.ga.us Web site: www.gfc.state.ga.us

Hawaii:

Division of Forestry & Wildlife 1151 Punchbowl Street, Rm. 325 Honolulu, HI 96813 Phone: 808-587-0166 FAX: 808-587-0160

Web site: www.dofaw.net/

Idaho:

Directory of Idaho Wood Products Manufacturers

Web address: www.cnr.uidaho.edu/ forp/idahodir.html

Department of Forest Products College of Natural Resources University of Idaho P.O. Box 441132 Moscow, ID 83844-1132

Phone: 208-885-9663 FAX: 208-885-6226

Email: forprod@uidaho.edu

Web site: www.cnr.uidaho.edu/forp/

Illinois:

Illinois Sawmill Directory

Department of Natural Resources
Division of Resource Protection and

Stewardship

One Natural Resources Way Springfield, IL 62702-1271 Phone: 217-785-8774 FAX: 217-785-2438

Web site: http://dnr.state.il.us

Indiana:

Primary/Secondary Forest Products Industries

Division of Forestry

Department of Natural Resources

1278 E SR 250

Brownstown, IN 47220 Phone: 812-358-2160 FAX: 812-358-5837

Web site: www.in.gov/dnr/forestry

Iowa:

Iowa Forest Products Directory

Bureau of Forestry

Iowa Department of Na

Iowa Department of Natural Resources Wallace Office Bldg. – 502 East 9th

Des Moines, IA 50319 Phone: 515-281-4924 FAX: 515-281-6794

Web site: www.iowadnr.com/forestry/

Kansas:

Kansas Sawmills

Kansas Forest Service Harold G. Gallaher Bldg. 2610 Clafin Road Manhatten, KS 66502 Phone: 785-532-3300 FAX: 785-532-3305

Email: kfs@lists.oznet.ksu.edu Web site: www.kansasforests.org

Kentucky:

Primary Wood Industry Directory

Division of Forestry 627 Comanche Trail Frankfort, KY 40601 Phone: 502-564-4496 FAX: 502-564-6553

Web site: www.forestry.ky.gov

Louisiana:

Directory of Louisiana's Primary Forest Industries

Office of Forestry

Department of Agriculture & Forestry

P.O. Box 1628

Baton Rouge, LA 70821-1628

Phone: 225-925-4500 FAX: 225-922-1356

Web site:

www.ldaf.state.la.us/divisions/forestry/

Office of Marketing

Department of Agriculture & Forestry

P.O. Box 3334

Baton Rouge, LA 70821-3334

Phone: 225-922-1280 FAX: 225-922-1289

Maine:

Primary Processor Mill List

Bureau of Forestry Department of Conservation State House Station #22 Augusta, ME 04333 Phone: 207-289-4995

FAX: 207-289-2400

Web site: www.state.me.us/doc/mfs/

Maryland:

Maryland Forest Product Operators

Department of Natural Resources Forest

Service

580 Taylor Avenue Annapolis, MD 21401 Phone: 410-260-8505 FAX: 410-260-8595

Web site: www.dnr.state.md.us/forests

Massachusetts:

Directory of Sawmills, Dry Kilns and Lumber Treaters

Bureau of Forestry-Marketing and

Utilization
Department of Environmental

Management 433 West Street

Suite 5

ounces

Amherst, MA 01002 Phone: 413-253-5634

FAX:413-253-5542

Web site: www.state.ma.us/dem/

program/forestry

Wood Industry Directory - MA, CT, RI

Southern New England Forest Consortium Inc.

P.O. Box 760

Chepachet, RI 02814

Phone: 401-568-1610, 1-800-722-TREE

FAX: 401-568-7874 Email: info@SNEFCI.org Web site: www.snefci.org

Michigan:

Wood products in Michigan: A Directory of Mills and Manufacturers

Michigan Forest Products Producers, Truckers, Brokers & Dealers

Forest, Minerals, Fire Management Department of Natural Resources Stevens T. Mason Bldg. P.O. Box 30452 Lansing, MI 48909-7952 Phone: 517-373-1275 FAX: 517-373-2443

Web site: www.michigandnr.com/wood

Minnesota:

Minnesota Primary Forest Products Directory

Division of Forestry
Department of Natural Resources
DNR Bldg., Box 44
500 Lafayette Road
St. Paul, MN 55155-4044
Phone: 612-296-6491
FAX: 612-296-5954
Web site:

www.dnr.state.mn.us/forestry/

Mississippi:

Mississippi's Primary Forest Industries

Mississippi Forestry Commission Suite 300 301 N. Lamar Street Jackson, MS 39201 Phone: 601-359-1386 FAX: 601-359-1349 Web site: www.mfc.state.ms.us

Missouri:

Directory of Primary Wood Processors

Web address: www.conservation.state. mo.us/forest/products/processors/

Forestry Section Department of Conservation 2901 West Truman Blvd. P.O. Box 180 Jefferson City, MO 65102 Phone: 573-751-4115 FAX: 573-526-6670 Web site: www.conservation. state.mo.us/forest/

Montana:

Division of Forestry
Department of Natural Resources
2705 Spurgin Road
Missoula, MT 5980-3199
Phone: 406-542-4300
FAX: 406-542-4217
Web site:
www.dnrc.state.mt.us/forestry/

Montana Manufacturers Information

System

Web address: www.mmis.umt.edu

Bureau of Business and Economic Research School of Business Administration University of Montana Missoula, MT 59812

Missoula, MT 59812 Phone: 406-243-5113 FAX: 406-243-2086

Web site: www.bber.umt.edu

Nebraska:

Nebraska Forest Products Manufacturers - Primary Processors

Nebraska Forest Service 109 Plant Industry Building University of Nebraska-Lincoln Lincoln, NE 68583-0815 Phone: 402-472-5822 FAX: 402-472-2964 Web site: www.nfs.unl.edu

Nevada:

Nevada Division of Forestry 2525 South Carson Street Carson City, Nevada 89701 Phone: 775-684-2500 FAX: 775-687-4244

Web site: www.forestry.nv.gov/

New Hampshire:

New Hampshire Directory of Sawmills & Lumber Wholesalers

UNH Cooperative Extension 210 Nesmith Hall 131 Main Street University of New Hampshire Durham, NH 03824 Phone: 603-862-2647 FAX: 603-862-0107

Web site: http://ceinfo.unh.edu/

New Jersey:

Primary Processing Directory

Division of Parks & Forestry Forestry Services P.O. Box 404 501 East State St. Trenton, NJ 08625 Phone: 609-292-2531 FAX: 609-984-0378

Web site:

www.state.nj.us/dep/forestry/service

New Mexico:

Wood Industry Directory

Forestry Division New Mexico Energy, Minerals & Natural Resources Department P.O. Box 1948 Santa Fe, NM 87504-1948 Phone: 505-476-3325 FAX: 505-476-3330 Web site:

New York:

Directory of Primary Wood-Using Industries

www.emnrd.state.nm.us/forestry/

Bureau of Private Land Services Environmental Conservation Department 625 Broadway Albany, NY 12233-4252

Phone: 518-402-9425 FAX: 581-402-9028

Web site: www.dec.state.ny.us

North Carolina:

Buyers of Forest Products

Web address: www.dfr.state.nc.us/ publications/bg_by_county.PDF

Division of Forest Resources 1616 Mail Service Center Raleigh, NC 27699-1616 Phone: 919-733-2162 FAX: 919-715-5247

Web site: www.dfr.state.nc.us/

North Dakota:

North Dakota Sawmill Directory

North Dakota Forest Service P.O. Box 604 Lisbon, ND 58054 Phone: 701-683-4323 FAX: 701-683-5895

Web site: www.ndsu.edu/ndsu/ lbakken/forest/NDFSHome.htm

Ohio:

Sawmill Directory

Division of Forestry
Department of Natural Resources
Fountain Square
Columbus, OH 43224
Phone: 614-265-6703
FAX: 614-265-6709
Web site: www.hcs.ohio-state.edu/
ODNR/Forestry.htm

Oklahoma:

Lists of Timber Buyers, Buyers, and Sawmills

Web address: www.oda.state.ok.us/ foru.htm

Division of Forestry
Department of Agriculture, Food, and
Forestry
P.O. Box 528804
Oklahoma City, OK. 73152-9913
Phone: 405-522-6158
FAX: 405-522-4583
Email: okforest@oda.state.ok.us
Web site:

www.oda.state.ok.us/aghome.htm

Oregon:

Department of Forestry 2600 State Street Salem, OR 97310 Phone: 503-945-7200 FAX: 503-945-7212 Web site: www.odf.state.or.us/

Pennsylvania:

Bureau of Forestry
Department of Conservation and
Natural Resources
Rachel Carson State Office Building
400 Market Street
P. O. Box 8552
Harrisburg, PA 17105-8552

Phone: 717-787-6460 FAX: 717-783-5109

Web site:

www.dcnr.state.pa.us/forestry/

Rhode Island:

Primary Producers Directory

Division of Forest Environment Arcadia Headquarters 260 Arcadia Road Hope Valley, RI 02832 Phone: 401-539-2356 FAX: 401-539-1157

Wood Industry Directory – MA, CT, RI

Southern New England Forest Consortium Inc. P.O. Box 760 Chepachet, RI 02814 Phone: 401-568-1610, 1-800-722-TREE FAX: 401-568-7874 Email: info@SNEFCI.org

South Carolina

Directory of Primary Forest Industries

Web site: www.snefci.org

Forestry Commission P.O. Box 21707 Columbia, SC 29221 Phone: 803-896-8800 FAX: 803-798-8097

Web site: www.state.sc.us/forest

South Dakota:

Directory of South Dakota Forest Products Industries

Division of Resource Conservation and Forestry Department of Agriculture 523 E. Capitol Avenue Pierre, SD 57501-3182 Phone: 605-773-3623

Tennessee:

FAX:605-773-5926

Directory of Tennessee's Forest Industries

Web address: www.state.tn.us/ agriculture/forestry/twui.html Division of Forestry
Department of Agriculture
Ellington Agriculture Center
Box 40627, Mel Rose Station
Nashville, TN 37204
Phone: 615-837-5431
FAX: 615-837-5003
Web site:

www.state.tn.us/agriculture/forestry/

Texac

Directory of Forest Products Industries in Texas (Web only)

Web address: http://tfsfrd.tamu.edu/fpd/fpdtx.asp

Texas Forest Service P.O. Box 310 Lufkin, TX 75902-0310 Phone: 936-639-8180 FAX: 936-639-8185 Web site:

http://txforestservice.tamu.edu/

Utah:

Utah & Nevada Wood Industry Directory

Division of Forestry, Fire & State Lands 1594 West North Temple, Suite 3520 Box 145703 Salt Lake City, Utah 84114-5703 Phone: 801-538-5555 FAX: 801-533-4111

Vermont

Directory of Sawmills & Veneer Mills

Web site: www.ffsl.utah.gov

Department of Forests, Parks, & Recreation
Agency of Natural Resources
103 South Main Street
Building 10 South
Waterbury, VT 05671-0601
Phone: 802-241-3678
FAX: 802-244-1481
Web site:

www.state.vt.us/anr/fpr/forestry

Virginia:

Virginia Primary Forest Products Directory 2001

Department of Forestry 900 Natural Resources Drive Suite 800 Charlottesville, VA 22903

Phone: 434-977-6555 FAX: 434-296-2369

Web site: www.dof.state.va.us

Washington:

Forest Industry Mill Directory

Department of Natural Resources Forest Landowner Assistance P.O. Box 407046 Olympia, WA 98504-7046

Phone: 206-902-1650 FAX: 206-902-1788

Web site: www.dnr.wa.gov/

West Virginia:

The Forest Industry

Division of Forestry Bureau of Commerce 1900 Kanawha Boulevard East Charleston, WV 25305 Phone: 304-558-2788 FAX: 304-558-0143

Web site: www.wvforestry.com/

Wisconsin:

Primary Directory

Division of Forestry
Department of Natural Resources
One Gifford Pinchot Drive
Room 130
Madison, WI 53726-2398

Phone: 608-231-9333 FAX: 608-231-9592

Web site:

www.dnr.state.wi.us/org/land/forestry/

Wyoming:

Wyoming Forest Industry Directory

Forestry Division

Office of State Lands and Investments

1100 West 22nd Street Cheyenne, WY 82002 Phone: 307-777-7586 FAX: 307-777-5986

Web site:

http://lands.state.wy.us/forestry.htm

Appendix D: State Marketing Bulletins

As a service to the wood products industry, some State Forestry and Extension offices publish marketing bulletins. These bulletins vary from state to state in content, size, publishing frequency, and circulation. Generally, these bulletins list products and services for sale or wanted, and they often contain articles on subjects affecting the industry and lists of upcoming workshops and events.

California:

Urbanwoods (Web site networking tool)

Department of Forestry & Fire Protection Urban & Community Forestry Program 2524 Mulberry Street Riverside, CA 92501 Phone: 909-320-6125 FAX: 909-782-4425 Web site: www.ufei.org

Connecticut:

Southern New England Stumpage Price Survey Results UCONN Cooperative Extension Extension Forester Brooklyn Extension Office 139 Wolf Den Road Brooklyn, CT 06234-1729 Phone: 860-774-9600 FAX: 860-774-9480 Web site: www.canr.uconn.edu/ces/

Idaho:

Station Bulletin

forest/

Department of Forest Products College of Natural Resources University of Idaho P.O. Box 441132 Moscow, ID 83844-1132 Phone: 208-885-9663 FAX: 208-885-6226 Email: forprod@uidaho.edu

Illinois:

Wooden Dollars

Division of Resource Protection and Stewardship Department of Natural Resources One Natural Resources Way Springfield, IL 62702-1271 Phone: 217-785-8774 FAX: 217-785-2438

Web site: http://dnr.state.il.us

Timber Price Survey

Stewardship
Department of Natural Resources
One Natural Resources Way
Springfield, IL 62702-1271
Phone: 217-785-8774
FAX: 217-785-2438
Web site: http://dnr.state.il.us

Division of Resource Protection and

Indiana:

Licensed Timber Buyers Bulletin

Division of Forestry
Department of Natural Resources
402 W. Washington
Room W 296
Indianapolis, IN 46204
Phone: 317-232-4112
FAX: 317-233-3863
Web site: www.in.gov/dnr/forestry

Iowa:

Iowa Wood Splinters

Bureau of Forestry Iowa Department of Natural Resources Wallace Office Building – 502 East 9th Des Moines, IA 50319 Phone: 515-281-4924 FAX: 515-281-6794

Kentucky:

Growing Gold

Division of Forestry 627 Comanche Trail Frankfort, KY 40601 Phone: 502-564-4496 FAX: 502-564-6553

Web site: www.forestry.ky.gov

Louisiana:

Quarterly Report of Forest Products

Office of Forestry Department of Agriculture & Forestry P.O. Box 1628

Baton Rouge, LA 70821-1628 Phone: 225-925-4500

FAX: 225-922-1356

Web site: www.ldaf.state.la.us/ divisions/forestry/reports/ quarterreport/default.asp

Louisiana Timber and Pulpwood Production Report

Office of Forestry
Department of Agriculture & Forestry
P.O. Box 1628
Baton Rouge, LA 70821-1628
Phone: 225-925-4500
FAX: 225-922-1356
Web site: www.ldaf.state.la.us
or www.ldaf.state.la.us/divisions/
forestry/forestproducts/default.asp

Massachusetts:

Southern New England Stumpage Price Survey

Cooperative Extension Service
University of Massachusetts
Department of Natural Resources
Conservation
Holdsworth Hall
Amherst, MA 01003-4210
Phone: 413-545-2665
FAX: 413-545-4358
Email: dbk@forwild.umass.edu
Web site: www.umass.edu/forwild/

Minnesota:

The Marketplace Bulletin

Division of Forestry Department of Natural Resources DNR Bldg., Box 44 500 Lafayette Road St. Paul, MN 55155-4044 Phone: 612-296-6491 FAX: 612-296-5954

Mississippi:

Mississippi Timber Price Report

Department of Forestry Mississippi State Extension Service Box 9681 Mississippi State, Mississippi 39762 Phone: 662-325-3150 FAX:662-325-0027

Web site: www.msucares.com/forestry/ prices/index.html

Missouri:

Timber Price Trends

Web address:

www.conservation.state.mo.us/ forest/products/prices/

Forestry Division 2901 West Truman Blvd. P.O. Box 180 Jefferson City, MO 65102 Phone: 573-751-4115 FAX: 573-526-6670 Web site:

> www.conservation.state.mo.us/ forest/products

Nebraska:

Timber Talk

Nebraska Forest Service 109 Plant Industry Bldg. University of Nebraska-Lincoln Lincoln, NE 68583-0815 Phone: 402-472-5822 FAX:402-472-2964

Web site: www.nfs.unl.edu

New Hampshire:

Forest Industry Marketing Bulletin

Cooperative Extension University of New Hampshire 121 Taylor Hall Durham, NH03824 Phone: 603-862-1096 FAX:603-862-1585

Web site: http://ceinfo.unh.edu/

New Jersev:

Marketing Bulletin

Division of Parks & Forestry Forestry Services P.O. Box 404 501 East State St. Trenton, NJ 08625 Phone: 609-292-2531 FAX:609-984-0378 Web site: www.state.nj.us/dep/

forestry/service

Tennessee:

Forest Products Bulletin

Division of Forestry Department of Agriculture Ellington Agriculture Center Box 40627, Mel Rose Station Nashville, TN 37204 Phone: 615-837-5431 FAX: 615-837-5003

Web site: www.state.tn.us/agriculture/

forestry/marketing.html

Vermont:

Forest Exchange & Information Bulletin

Department of Forests, Parks, & Recreation 103 South Main Street Building 10 South Waterbury, VT 05671-0601 Phone: 802-241-3678 FAX: 802-244-1481

Web site: www.state.vt.us/anr/fpr/

forestry

West Virginia:

Forest Products Bulletin

Division of Forestry Bureau of Commerce 1900 Kanawha Boulevard East Charleston, WV 25305 Phone: 304-558-2788

FAX: 304-558-0143

Web site: www.wvforestry.com/

Wisconsin:

Woods Marketing Bulletin

Department of Natural Resources 3911 Fish Hatchery Road Route 4

Madison, WI 53711 Phone: 608-275-3276 FAX:608-275-3338

Web site: www.dnr.state.wi.us/org/

land/forestry/

Appendix E: Forestry/Wood Products Extension Specialists

Below is a list of land grant universities that employ forestry and/or wood products extension specialists. These specialists may be able to assist you with identifying sawmills in your area.

Alabama:

Forest Products Development Center 108 M. White Smith Hall Auburn University, AL 36849 Phone: 334-844-1094 FAX: 334-844-4221

Web site: www.forestry.auburn.edu/

fpdc/fpdchome.html

Alaska:

Cooperative Extension Service University of Alaska – Fairbanks P.O. Box 756180 Fairbanks, AK 99775-6180 Phone: 907-474-6356 FAX:907-474-5139

Web site: www.uaf.edu/coop-ext/

Arkansas:

Cooperative Extension Service Environmental and Natural Resource Section University of Arkansas P.O. Box 391 Little Rock, AR 72203 Phone: 501-671-2346 FAX: 501-671-2110 Web site: http://www.uark.edu/depts/ aeedhp/#

California:

Cooperative Extension Service University of California 163 Mulford Hall Berkeley, CA 94720 Phone: 510-642-2360 FAX:510-642-5438 Web site: www.cnr.berkeley.edu/site/

coop ext.php

Colorado:

Cooperative Extension 1 Administration Building Colorado State University Fort Collins, CO 80523-4040 Phone: 970-491-6281 FAX:970-491-6208

Web site: www.ext.colostate.edu/

menunatr.html

Connecticut:

Cooperative Extension Service University of Connecticut Extension Office 139 Wolf Den Road Brooklyn, CT 06234 Phone: 860-774-9600 FAX:860-774-9480

Web site: www.canr.uconn.edu/ces/

forest/

Georgia:

Cooperative Extension Service University of Georgia Warnell School of Forest Resources 4-402

Athens, GA 30602 Phone: 706-542-7813 FAX: 706-542-3342

Web site: www.forestry.uga.edu/

warnell/service/

Hawaii:

Cooperative Extension University of Hawaii 1910 East-West Road Honolulu, HI 96822 Phone: 808-956-7530 FAX:808-956-6539

Web site: www2.ctahr.hawaii.edu/

forestry/

Idaho:

Cooperative Extension Service University of Idaho P.O. Box 441140 Moscow, ID 83843-1140 Phone: 208-885-6356 FAX: 208-885-6226 Email: extfor@uidaho.edu Web site: www.cnr.uidaho.edu/

extforest/

Indiana:

Cooperative Extension & Outreach Department of Forestry and Natural Resources Purdue University Forest Products Building 175 Marsteller Street West Lafayette, IN 47907-2033 Phone: 765-494-3644 FAX: 765-496-2422

Email: fnrweb@fnr.purdue.edu

Web site: www.agriculture.purdue.edu/ fnr/Extension/extension.html

Iowa:

University Extension Department of Natural Resource **Ecology and Management** Iowa State University 253 Bessey Hall Ames, IA 50011 Phone: 515-294-2115 FAX: 515-294-2995

Web site: www.forestry.iastate.edu/ext/

ext.html

Kansas:

Research and Extension Department of Horticulture, Forestry, & Recreation Resources Kansas State University 3038 Throckmorton Plant Sciences Center Manhattan, KS 66506-5506

Phone: 785-532-1444 FAX: 785-532-5780

Web site: www.oznet.ksu.edu/

Kentucky:

Cooperative Extension Department of Forestry University of Kentucky 205 Thomas P. Cooper Building Lexington, KY 40546-0073 Phone: 859-257-7611 FAX:859-323-1031

Web site: www.uky.edu/Agriculture/ Forestry/extens.htm

Louisiana:

Cooperative Extension Service School of Forest Wildlife & Fisheries Louisiana State University 111 Renewable Natural Resources Building Baton Rouge, Louisiana 70803 Phone: 225-578-6432

FAX: 225-578-4251

Web site: www.lsuagcenter.com/Inst/ Extension/Departments/ Extension Forestry/index.asp

Maine:

Cooperative Extension University of Maine Forestry and Wildlife Office 5755 Nutting Hall, Room 105 Orono, ME 04469-5755 Phone: 207-581-2892 or 1-800-287-0274

(in Maine) FAX: 207-581-3466

Web site: www.umext.maine.edu/ topics/forestry.htm

Maryland:

Cooperative Extension University of Maryland Symono Hall, Rm 1200 College Park, MD 20742 Phone: 301-405-7972 FAX:301-405-2963

Web site: www.agnr.umd.edu/MCE/ naturalResources.cfm

Massachusetts:

University of Massachusetts Extension Holdsworth Hall Amherst, MA 01003 Phone: 413-545-2943

FAX:413-545-4358

Email: nrec@umext.umass.edu Web site: www.umassextension.org/

Michigan:

Michigan State University Extension 114 Natural Resources Building Michigan State University East Lansing, MI 48824-1222 Phone: 517-353-8474 FAX:517-432-1143

Web site: www.msue.msu.edu/aoe/

forestry.html

Minnesota:

Forest Resources Extension University of Minnesota 116 Green Hall 1530 Cleveland Avenue N St. Paul, MN 55108-6112 Phone: 612-624-3020 FAX:612-625-5212 Email: treeinfo@umn.edu Web site: www.cnr.umn.edu/FR/ extension/

Mississippi

Extension Service Forestry Department Mississippi State University Box 9681 Mississippi State, MS 39762 Phone: 662-325-3151 FAX:662-325-0027

Web site: http://msucares.com/ forestry/extension/index.html

Missouri:

Missouri University Extension School of Natural Resources 1-34 Agriculture Building Columbia, MO 65211 Phone: 573-882-4444 FAX: 573-882-1977 Web site: http://

muextension.missouri.edu/

Montana:

Montana State University Extension Service 32 Campus Drive Missoula, MT 59812-0606 Phone: 406-243-2773 FAX:406-243-4715

Web site: http://extn.msu.montana.edu/

Nebraska:

Cooperative Extension University of Nebraska 107 Plant Industry Lincoln, NE 68583-0814 Phone: 402-472-6511 FAX:402-472-2964

Web site: http://extension.unl.edu/

New Hampshire:

Cooperative Extension University of New Hampshire 55 College Road Pettee Hall Durham, NH 03824-3599 Phone: 603-862-2647 FAX:603-862-0107

Web site: http://ceinfo.unh.edu/ forestry/documents/FWRhome.htm

New Jersey:

Cooperative Extension Department of Ecology, Evolution and Natural Resources Cook College-Rutgers University 80 Nichol Avenue New Brunswick, NJ 08901-2882 Phone: 732-932-8993 ext. 10 FAX: 732-932-3222

Web site: www.rce.rutgers.edu/

New York:

Cooperative Extension Department of Natural Resources Cornell University 116 Fernow Hall Ithaca, NY 14853-3001 Phone: 607-255-4696 FAX:607-255-2815

Web site: www.dnr.cornell.edu/ext/ forestrypage/index.htm

North Carolina:

Extension Forestry Cooperative Extension North Carolina State University Campus Box 8003 Raleigh, NC 27695-8003 Phone: 919-515-5638 FAX:919-515-6883

Web site: www.ces.ncsu.edu/nreos/ forest/

North Dakota:

Extension Service North Dakota State University Plant Sciences Department Loftsgard Hall Fargo, ND 58105 Phone: 701-231-8143

FAX: 701-231-8474

Web site: www.ag.ndsu.nodak.edu/

Ohio:

Ohio State University Extension 1864 Shyville Road Piketon, OH 45661-9749 Phone: 740-289-2071 FAX:740-289-4591

Web site: www.ag.ohio-state.edu/

Oklahoma:

Extension Forestry, Wildlife, and Aquaculture Cooperative Extension Service Forestry Department Oklahoma State University 008 Ag Hall Stillwater, OK 74078 Phone: 405-744-6432 FAX:405-744-9693

Web site: http://agweb.okstate.edu/

fwa/

Oregon:

Forestry Extension Program **Extension Service** Oregon State University 109 Richardson Hall Corvallis, OR 97331-5712 Phone: 541-737-1727 FAX:541-737-3008

Web site: www.cof.orst.edu/cof/ extended/extserv/

Pennsylvania:

Cooperative Extension and Outreach Pennsylvania State University School of Forest Resources 313 Forest Resources Lab University Park, PA 16802 Phone: 814-863-0422 FAX:814-863-7193

Web site: www.cas.psu.edu/docs/

COEXT/default.html

South Carolina

Extension Forest Resources Clemson University 272 Lehotsky Hall P.O. Box 34-1003 Clemson, SC 29634 Phone: 864-656-2479 FAX:864-656-4786

Web site: www.clemson.edu/extfor/

Tennessee:

Agriculture Extension Service University of Tennessee P.O. Box 1071 Knoxville, TN 37901-1071 Phone: 865-974-7346 FAX:865-974-4714

Web site: http://fwf.ag.utk.edu/ extension/extension.htm

Texas:

Extension Forestry Texas A&M University Agricultural Research & Extension Center P.O. Box 38 Overton, TX 75684 Phone: 903-834-6191 FAX:903-834-6257 Web site: http:// extensionforestry.tamu.edu/

Utah:

Forestry Extension Department of Forest, Range & Wildlife Sciences Utah State University Logan, UT 84322-5215 Phone: 435-797-4056 FAX:435-797-4040

Web site: http://extension.usu.edu/ forestry/

Vermont:

Extension Forestry School of Natural Resources University of Vermont 345 Aiken Center Burlington, VT 05405-0088 Phone: 802-656-2913 FAX:802-656-8682

Web site: http://stumpage.uvm.edu/

Virginia:

Wood Products Extension Department of Wood Science & Forest **Products Brooks Forest Products Center** Virginia Tech 1650 Ramble Road - Mail Code 0503 Blacksburg, VA 20461-0503 Phone: 540-231-9759

Web site: http://vtwood.forprod. vt.edu/outreach.asp

Washington:

FAX: 540-231-8868

Forestry Extension Department of Natural Resource Sciences Washington State University POBox 646410 Pullman, WA 99164-6410 Phone: 509-335-2964 FAX:509-335-2878

Web site: http://ext.nrs.wsu.edu/ forestryext/index.htm

West Virginia:

Appalachian Hardwood Center West Virginia University 205 Percival Hall P.O. Box 6125 Morgantown, WV 26506-6125

Phone: 304-293-7550 FAX: 304-293-7553

Web site: www.wvu.edu/~exten/depts/ af/ahc/ahc.htm

Wisconsin:

Forestry Extension University of Wisconsin-Madison Dept. of Forest Ecology and Management 120 Russell Labs Madison, WI 53706-1598 Phone: 608-265-5849

FAX:608-262-9922 Web site: http://forest.wisc.edu/

extension/

Appendix F: Resource Conservation & Development Program

Many times, the coordinator of the RC&D Program in your area is familiar with sawmill operators. To learn more about the RC&D area and its coordinator located nearest you, contact the program manager for your state from the following list.

Alabama:

RC&D Program Manager USDA Natural Resources Conservation Service P.O.Box 311

Auburn, AL 36830 Phone: 334-887-4574 FAX: 334-887-4551

Web site: www.al.nrcs.usda.gov/

California:

RC&D Program Manager USDA Natural Resources Conservation

Service Suite 4164 430 G Street

Davis, CA 95616-4164 Phone: 530-792-5605 FAX: 530-792-5790

Web site: www.ca.nrcs.usda.gov/

Florida:

RC&D Program Manager

USDA Natural Resources Conservation

Service P.O. Box 141510

Gainesville, FL 32614-1510 Phone: 352-338-9508 FAX: 352-338-9574

Web site: www.fl.nrcs.usda.gov/

Alaska:

RC&D Program Manager

USDA Natural Resources Conservation Service

Suite 100

800 W. Evergreen Avenue Palmer, AK 99645

Phone: 907-761-7757 FAX: 907-761-7790

Web site: www.ak.nrcs.usda.gov/

Colorado:

RC&D Program Manager

USDA Natural Resources Conservation

Service Room E 200C 655 Parfet Street

Lakewood, CO 80215-5521 Phone: 720-544-2803 FAX: 720-544-2965

Web site: www.co.nrcs.usda.gov/

Georgia:

RC&D Program Manager

USDA Natural Resources Conservation

Service

355 E. Hancock Avenue Athens, GA 30601-2769 Phone: 706-546-2272 FAX: 706-546-2120

Web site: www.ga.nrcs.usda.gov/

Arizona:

Service

RC&D Program Manager

USDA Natural Resources Conservation

Suite 800 3003 N. Central Avenue Phoenix, AZ 85012-2945 Phone: 602-280-8781 FAX: 602-280-8809

Web site: www.az.nrcs.usda.gov/

Connecticut:

RC&D Program Manager

USDA Natural Resources Conservation

Service 344 Merrow Road Tolland, CT 06084 Phone: 860-871-4018 FAX: 860-871-4054

Web site: www.ct.nrcs.usda.gov/

Hawaii:

RC&D Program Manager

USDA Natural Resources Conservation

Service

300 Ala Moana Blvd, Room 4-118

P.O. Box 50004 Honolulu, HI 96850 Phone: 808-541-2600 FAX: 808-541-1335

Web site: www.hi.nrcs.usda.gov/

Arkansas:

RC&D Program Manager

USDA Natural Resources Conservation Service

Federal Bldg., Room 3416 700 W. Capitol Avenue Little Rock, AR 72201-3228 Phone: 501-301-3162 FAX: 501-301-3194

Web site: www.ar.nrcs.usda.gov/

Delaware:

RC&D Program Manager

USDA Natural Resources Conservation

Service Suite 101 1203 College Park Drive Dover, DE 19904-8713 Phone: 302-678-4169

FAX: 302-678-0843

Web site: www.de.nrcs.usda.gov/

Idaho:

RC&D Program Manager

USDA Natural Resources Conservation

Service Suite C

9173 West Barnes Drives

Boise, ID 83709 Phone: 208-888-1890 FAX: 208-378-5735

Web site: www.id.nrcs.usda.gov/

Illinois:

RC&D Program Manager USDA Natural Resources Conservation Service

2118 W. Park Court Champaign, IL 61821 Phone: 217-353-6603 FAX: 217-353-6676

Web site: www.il.nrcs.usda.gov/

Indiana: RC&D Program Manager

USDA Natural Resources Conservation Service

6013 Lakeside Boulavard Indianapolis, IN 46278-2933 Phone: 317-290-3200

Web site: www.in.nrcs.usda.gov/

Iowa:

RC&D Program Manager

USDA Natural Resources Conservation

Service

Federal Building, Suite 693

210 Walnut Street

FAX:317-290-3225

Des Moines, IA 50309-2180

Phone: 515-284-4769 FAX: 515-284-4394

Web site: www.ia.nrcs.usda.gov/

Kansas:

RC&D Program Manager

USDA Natural Resources Conservation

Service

760 South Broadway Salina, KS 67401-4642 Phone: 785-823-4568

FAX:785-823-4540

Web site: www.ks.nrcs.usda.gov/

Kentucky:

RC&D Program Manager

USDA Natural Resources Conservation

Service Suite 210

771 Corporate Drive Lexington, KY 40503-5479

Phone: 859-224-7403 FAX: 859-224-7399

Web site: www.ky.nrcs.usda.gov/

Louisiana:

RC&D Program Manager

USDA Natural Resources Conservation

Service

3737 Government Street Alexandria, LA 71302-3727

Phone: 318-473-7756 FAX: 318-473-7682

Web site: www.la.nrcs.usda.gov/

Maine:

RC&D Program Manager

USDA Natural Resources Conservation

Service Suite 3

967 Illinois Avenue Bangor, ME 04401

Phone: 207-990-9100 FAX: 207-990-9599

Web site: www.me.nrcs.usda.gov/

Maryland:

RC&D Program Manager

USDA Natural Resources Conservation

Service Suite 301

339 Busch's Frontage Road

Annapolis, MD 21401-5534 Phone: 410-757-0861

FAX:410-757-0687

Web site: www.md.nrcs.usda.gov/

Massachusetts:

RC&D Program Manager

USDA Natural Resources Conservation

Service 451 West Street

Amherst, MA 01002-2995

Phone: 413-253-4356 FAX: 413-253-5542

Web site: www.ma.nrcs.usda.gov/

Michigan:

RC&D Program Manager

USDA Natural Resources Conservation

Service Suite 250

3001 Coolidge Road East Lansing, MI 48823

Phone: 517-324-5282 FAX: 517-324-5180

Web site: www.mi.nrcs.usda.gov/

Minnesota:

RC&D Program Manager

USDA Natural Resources Conservation

Service Suite 600 375 Jackson St

St. Paul, MN 55101-1854 Phone: 651-602-7886

FAX:651-602-7914

Web site: www.mn.nrcs.usda.gov/

Mississippi:

RC&D Program Manager

USDA Natural Resources Conservation

Service

Federal Bldg., Suite 1321 100 W. Capitol Street Jackson, MS 39269-1399

Phone: 601-965-4335 FAX: 601-965-4940

Web site: www.ms.nrcs.usda.gov/

Missouri:

RC&D Program Manager

USDA Natural Resources Conservation

Service

Parkade Ctr., Ste. 250

601 Business Loop 70 W.

Columbia, MO 65203 Phone: 573-876-0900

FAX: 573-876-0913

FAX:5/3-8/6-0913

Web site: www.mo.nrcs.usda.gov/

Montana:

RC&D Program Manager

USDA Natural Resources Conservation

Service

Federal Bldg, Room 410

10 East Babcock Street

Bozeman, MT 59715

Phone: 406-587-6794

FAX: 406-587-6761

Web site: www.mt.nrcs.usda.gov/

Nebraska:

RC&D Program Manager

USDA Natural Resources Conservation

Service

Room 152

100 Centennial Mall North Lincoln, NE 68508-3866

Phone: 402-437-4106 FAX: 402-437-5327

Web site: www.ne.nrcs.usda.gov/

Nevada:

RC&D Program Manager USDA Natural Resources Conservation Service

Bldg. F, Suite 201 5301 Longley Lane Reno, NV 89511-1805 Phone: 775-784-5863 FAX: 775-784-5939

Web site: www.nv.nrcs.usda.gov/

New Hampshire:

RC&D Program Manager USDA Natural Resources Conservation Service Federal Building 2 Madbury Road Durham, NH 03824-2043 Phone: 603-868-7581

FAX: 603-868-5301

Web site: www.nh.nrcs.usda.gov/

New Jersey:

RC&D Program Manager USDA Natural Resources Conservation Service

1370 Hamilton Street Somerset, NJ 08873-3341 Phone: 732-246-1171 FAX: 732-246-2358

Web site: www.nj.nrcs.usda.gov/

New Mexico:

RC&D Program Manager USDA Natural Resources Conservation Service

Suite 305 6200 Jefferson NE

Albuquerque, NM 87109-3734

Phone: 505-761-4986 FAX: 505-761-4462

Web site: www.nm.nrcs.usda.gov/

New York:

RC&D Program Manager USDA Natural Resources Conservation Service

Suite 354 441 S. Salina Street Syracuse, NY 13202-2450 Phone: 315-477-6527 FAX: 315-477-6550

Web site: www.ny.nrcs.usda.gov/

North Carolina:

RC&D Program Manager

USDA Natural Resources Conservation Service

Suite 205 4405 Bland Road Raleigh, NC 27609-6293 Phone: 919-873-2103 FAX: 919-873-2156

Web site: www.nc.nrcs.usda.gov/

North Dakota:

RC&D Program Manager

USDA Natural Resources Conservation Service

P.O. Box 1458

Bismarck, ND 58502-1458 Phone: 701-530-2095 FAX: 701-530-2112

Web site: www.nd.nrcs.usda.gov/

Ohio:

RC&D Program Manager

USDA Natural Resources Conservation Service

Room 522

200 North High Street Columbus, OH 43215 Phone: 614-255-2474 FAX: 614-255-2548

Web site: www.oh.nrcs.usda.gov/

Oklahoma:

RC&D Program Manager

USDA Natural Resources Conservation

Service Suite 206

100 USDA Agriculture Building

Stillwater, OK 74074 Phone: 405-742-1220 FAX: 405-742-1126

Web site: www.ok.nrcs.usda.gov/

Oregon:

RC&D Program Manager

USDA Natural Resources Conservation

Service Suite 1300

101 SW Main Street Portland, OR 97204-3221

Phone: 503-414-3236 FAX: 503-414-3103

Web site: www.or.nrcs.usda.gov/

Pennsylvania:

RC&D Program Manager

USDA Natural Resources Conservation

Service Suite 340

One Credit Union Place Harrisburg, PA 17110-2993

Phone: 717-237-2204 FAX: 717-237-2238

Web site: www.pa.nrcs.usda.gov/

Rhode Island:

RC&D Program Manager

USDA Natural Resources Conservation

Service 17 Smith Avenue Greenville, RI 02828 Phone: 401-949-4418 FAX: 401-949-4436

Web site: www.ri.nrcs.usda.gov/

South Carolina:

RC&D Program Manager

USDA Natural Resources Conservation

Service Room 950

1835 Assembly Street Columbia, SC 29201 Phone: 803-765-5681 FAX: 803-253-3670

Web site: www.sc.nrcs.usda.gov/

South Dakota:

RC&D Program Manager

USDA Natural Resources Conservation

Service

Federal Building, Rm 203

200 4th Street SW

Huron, SD 57350

Phone: 605-352-1243

FAX: 605-352-1288

Web site: www.sd.nrcs.usda.gov/

Tennessee:

RC&D Program Manager

USDA Natural Resources Conservation

Service Room 675

801 Broadway

FAX:615-277-2578

Nashville, TN 37203-3878 Phone: 615-277-2533

Web site: www.tn.nrcs.usda.gov/

Texas:

RC&D Program Manager USDA Natural Resources Conservation

Service

W. R. Poage Building 101 S. Main Street Temple, TX 76501-7682 Phone: 254-742-9822 FAX: 254-742-9848

Web site: www.tx.nrcs.usda.gov/

Virginia:

RC&D Program Manager

USDA Natural Resources Conservation

Service Suite 209

1606 Santa Rosa Road Richmond, VA 23229-5014

Phone: 804-287-1649 FAX: 804-287-1737

Web site: www.va.nrcs.usda.gov/

Wisconsin:

RC&D Program Manager

USDA Natural Resources Conservation

Service Suite 200

6515 Watts Road

Madison, WI 53719-2626 Phone: 608-276-8732 FAX: 608-276-5890

Web site: www.wi.nrcs.usda.gov/

Utah:

RC&D Program Manager USDA Natural Resources Conservation

Service

Rm 4402, W.F. Bennett Federal Bldg.

125 South State Street Salt Lake City, UT 84111 Phone: 801-524-4552 FAX: 801-524-4403

Web site: www.ut.nrcs.usda.gov/

Washington:

RC&D Program Manager

USDA Natural Resources Conservation

Service Suite B

2145 Basin Street SW

Ephrata, WA 98823-2198 Phone: 509-754-1964

FAX:509-754-1868

Web site: www.wa.nrcs.usda.gov/

Wyoming:

RC&D Program Manager

USDA Natural Resources Conservation

Service

Federal Bldg., Rm 3124 100 East B Street Casper, WY 82601

Phone: 307-261-6457 FAX: 307-261-6349

Web site: www.wy.nrcs.usda.gov/

Vermont:

RC&D Program Manager

USDA Natural Resources Conservation

Service Suite 105

356 Mountain View Drive Colchester, VT 05446

Phone: 802-951-6796 FAX: 802-951-6327

Web site: www.vt.nrcs.usda.gov/

West Virginia:

RC&D Program Manager

USDA Natural Resources Conservation

Service

Mill Run USDA Service Center

Route 5, Box 1000

Parkersburg, WV 26101-9805

Phone: 304-422-9072 FAX: 304-422-9086

Web site: www.wv.nrcs.usda.gov/

Appendix G: Portable Sawmill Manufacturers & Suppliers

Baker Products

P.O. Box 128

Ellington, MO 63638

Phone: 573-663-7711 or 800-548-6914

FAX:573-663-2787

Email: info@baker-online.com Web site: www.baker-online.com

Cutting Edge Portable Sawmills

A subsidiary of M&M Development

LTD.

#301 26730 56th Ave. Langley, British Columbia CANADA V4W 3X5

Phone: 888-222-6171 or 604-856-7449

FAX:604-856-0641

Email: info@cuttingedgesawmills.com

Web site:

www.cuttingedgesawmills.com/

Enercraft/Baker Products Inc.

2365 Cassell Drive

Hillsdale, Ontario, Canada LOL 1VO Phone: 800-387-5553 or 705-835-3222

FAX:705-835-2788

Email: sales@enercraft.com Web site: www.enercraft.com

Frickco Inc.

54660 Pretty Run Rd.

South Bloomingville, OH 43152

Phone: 740-887-3799 FAX: 740-887-2017

Email: albright@bright.net

Web site: www.bright.net/~albright/

Heartwood Saw

#525 Bellevue Drive

R.R.#5, Belleville,

Ontario, Canada, K8N 4Z5

Phone: 1-888-497-2926 or 613-969-8495

FAX:613-969-0143

Email: info@heartwoodsaw.com Web site: www.heartwoodsaw.com

Hud-Son Forest Equipment

P.O. Box 345 8187 State Rte 12

Barneveld, NY 13304 Phone: 800-765-7297

FAX:315-896-2815 Email: info@hud-son.com

Web site: www.hud-son.com/

Hurdle Machine Works Inc.

16195 Hwy. 57 Moscow, TN 38057

Phone: 901-877-6251 FAX: 901-877-6260

Email: sales@hurdlemachineworks.com

Web site:

www.hurdlemachineworks.com/

Jackson Lumber Harvester

830 N. State Rd. 37 Mondovi, WI 54755 Phone: 715-926-3816

FAX:715-926-4545

Email: info@jacksonlbrharvester.com

Web site:

www.jacksonlbrharvester.com

Lanetech Mfg. Co. Inc

P.O. Box 468

9 Transportation Drive

Barre, VT 05641 Phone: 802-479-3249 FAX: 802-479-3240

Ligna Machinery Inc.

315 MacArthur Lane

Burlington, NC 27215-0907

Phone: 336-584-0030 FAX: 336-584-5915

Email: info@lignamachinery.com Web site: www.lignamachinery.com/

Log Master Portable Bands aw Sawmills,

Inc.

16576US Hwy. 259N Nacogdoches, TX 75965 Phone: 800-820-9515

FAX:936-560-6755

Email: sales@logmaster.com Web site: www.logmaster.com

Lucas Mill

C/O Bailey's Inc.

P.O. Box 550, 44650 Hwy. 101 Laytonville, CA 95454 Phone: 800-322-4539 FAX: 707-984-8115

Email: baileys@baileys-online.com Web site: www.baileys-online.com

Meadow Mills, Inc.

P.O. Box 1288

North Wilkesboro, NC 28659

Phone: 800-626-2282 or 336-838-2282

FAX: 336-667-6501

Email: meadowsmills@charter.net Web site: www.meadowsmills.com

Micromill Systems, Inc.

P.O. Box 255

Summerland, B.C., Canada V0H 1Z0

Phone: 250-494-7238 FAX: 250-494-7236

Email: info@micromills.com
Web site: www.micromills.com/

Mighty-Mite Industries Inc.

P.O. Box 20427

Portland, OR 97220

Phone 503-288-5923 FAX: 503-288-5582

Email: mytmite@pacifier.com

Web site:

www.mightymitesawmills.com/

Mobile Manufacturing Co.

P.O. Box 258

Troutdale, OR 97060

Phone: 503-666-5593

FAX: 503-661-7548

Email: info@mobilemfg.com Web site: www.mobilemfg.com/

Norwood Industries Inc.

252 Sonwil Drive

Buffalo, NY 14225

Phone: 800-661-7746 FAX: 705-689-1982

Email:

norwood@norwoodindustries.com Web site: www.norwoodindustries.com

Peterson Portable Sawmilling

152 View Road

Rotorua

New Zealand

Phone/FAX: 866-260-6464

Email: sales@petersonsawmills.com Web site: www.petersonsawmills.com/

Quality Manufacturing Company

1333 East Dominick St. Rome, NY 13440

Phone: 1-800-BANDMIL Email: sales@bandmill.com Web site: www.bandmill.com/

Sawmill Hydraulics Inc.

23522 West Farmington Road Farmington, IL 61531 Phone: 309-245-2448 FAX: 309-245-5126 Email: service@4helle.com

Web site: www.4helle.com

Select Sawmill Co.

5889 County Road 17, Box 81 Plantagenet, Ontario CANADA K0B 1L0

Phone: 613-673-1267 or 613-673-2919

FAX: 613-673-2854

Email: sales@selectsawmill.com Web site: www.selectsawmill.com/

Thomas Bandsaw Mills

P.O. Box 95 Brooks, ME 04921 Phone/FAX: 207-722-3505 Toll free outside of Maine: 866-722-3505

Email: tho masmills@acadia.net

Web site:

www.thomasbandsawmills.com

Timber Harvester, Inc.

1310 Waterloo-Geneva Road Waterloo, NY 13165 Phone: 315-539-5095 or 800-343-2969

FAX:315-539-8000

Email: tharvester@flare.net

Web site: www.timberharvester.com/

index.html-ssi

TimberKing, Inc.

1431 North Topping Avenue Kansas City, Missouri 64120 Phone: 800-942-4406 FAX: 816-483-7203

Web site: www.timberking.com/

Timberpro Portable Sawmills

Timberwolf Equipment LTD. 1790 Willow Street Campbell River, BC V9W 1M7 Phone: 250-287-2934 FAX: 250-286-9641 Email: dde@powersources.com

Web site:

www.client.forestindustry.com/timberpro/

Turner Band Sawmills

544 County Road 4 Oxford, NY 13830 Phone: 607-843-7318 FAX: 607-843-5060

Email: wildridgefarm@mkl.com Web site: www.turnermills.com

Wood-Mizer Products, Inc.

8180 West 10th Street Indianapolis, IN 46214

Phone: 317-271-1542 or 800-553-0182

FAX:317-273-1011

Web site: www.woodmizer.com/

welcome.html

Inclusion in this list does not constitute an endorsement of the company or nor is exclusion intended to reflect adversely upon the reputation of the company.

Appendix H: State-Wide Craft Organizations

The following list identifies state art councils and craft organizations by state. Within these organizations, there are usually chapters or sub-organizations located throughout the state. To locate the chapter nearest you, contact the state organization listed below. These organizations may be able to direct you to interested buyers of street tree logs.

Alabama

Alabama State Council on the Arts 201 Monroe Street Montgomery, AL 36130-1800 Phone: 334-242-4076

FAX:334-240-3269

Web site: www.arts.state.al.us/

Alaska

Alaska State Council on the Arts 411 W. 4th Avenue Suite 1E Anchorage, AK 99501-2343

Phone: 907-269-6610 FAX: 907-269-6601 Web site: www.aksca.org/

Arizona

Arizona Commission on the Arts 417 West Roosevelt Street Phoenix, AZ 85003 Phone: 602-255-5882 FAX: 602-256-0282

Web site: www.arizonaArts.org/

Arizona Designer Craftsmen 218 West Knox Drive Tucson, AZ 85705-3221 Phone: 520-791-4063 FAX: 520-292-0198

Web site: www.intrec.com/adc

Arkansas

Arkansas Arts Council 1500 Tower Building 323 Center Street Little Rock, AR 72201 Phone: 501-324-9766 FAX: 501-324-9207

Web site: www.arkansasarts.com/

Arkansas Craft Guild P.O. Box 800 Mountain View, AR 72560 Phone: 870-269-3897 FAX: 870-269-3030

Web site: www.arkansascraftguild.org/

California

California Arts Council 1300 I Street Suite 930 Sacramento, CA 95814 Phone: 916-322-6555 FAX: 916-322-6575

Web site: www.cac.ca.gov/

Colorado

Colorado Council on the Arts 750 Pennsylvania Street Denver, CO 80203 Phone: 303-894-2617 FAX: 303-894-2615 Web site: www.colarts.state.co.us

Connecticut

Connecticut Commission on the Arts One Financial Plaza 755 Main Street Hartford, CT 06103 Phone: 860-566-4770 FAX: 860-566-6462 Web site: www.ctarts.org/

Connecticut Guild of Craftsmen c/o Craft Digest P.O. Box 155 New Britain, CT 06050-0155 Phone: 860-225-8875 FAX: 860-225-7325

Web site: www.craftdigest.com

Delaware

Delaware Division of the Arts Carvel State Office Building 820 North French Street Wilmington, DE 19801 Phone: 302-577-8278 FAX: 302-577-6561

Web site: www.artsdel.org

District of Columbia

DC Commission on the Arts and Humanities 410 8th Street, NW Fifth Floor Washington, DC 20004 Phone: 202-724-5613 FAX: 202-727-4135

Web site: www.capaccess.org/ane/

dccah/

Florida

Florida Division of Cultural Affairs Department of State The Capitol 1001 DeSoto Park Drive Tallahassee, FL 32301 Phone: 850-487-2980 FAX: 850-922-5259

Web site: www.dos.state.fl.us/

Florida Craftsmen 501 Central Avenue St. Petersburg, FL 33701-3703 Phone: 727-821-7391 FAX: 727-822-4294

Web site: www.floridacraftsmen.net

Georgia

Georgia Council for the Arts 260 14th Street Suite 401 Atlanta, GA 30318 Phone: 404-685-2787 FAX: 404-685-2788

Web site: www.gaarts.org/

Hawaii

State Foundation on Culture and the Arts
250 South Hotel Street
2nd Fl.

Honolulu, HI 96813 Phone: 808-586-0300 FAX: 808-586-0308

Web site: www.state.hi.us/sfca/

Idaho

Idaho Commission on the Arts P.O. Box 83720

Boise, ID 83720-0008 Phone: 208-334-2119 FAX: 208-334-2488

Web site: www.state.id.us/arts/

Illinois

Illinois Arts Council 100 West Randolph Street Suite 10-500

Chicago, IL 60601 Phone: 312-814-6750 FAX: 312-814-1471

Web site: www.state.il.us/agency/iac/

Indiana

Indiana Arts Commission 402 W. Washington Street

Rm. W072

Indianapolis, IN 46204 Phone: 317-232-1268 FAX:317-232-5595

Web site: www.IN.gov/arts/

Iowa

Iowa Arts Council Capitol Complex 600 E. Locust Des Moines, IA 50319

Phone: 515-281-4451 FAX: 515-242-6498

Web site: www.state.ia.us/government/ dca/iac/

Kansas

Kansas Arts Commission 700 SW Jackson Suite 1004 Topeka, KS 66603

Phone: 785-296-3335 FAX: 785-296-4989

Web site: http://arts.state.ks.us

Kentucky

Kentucky Arts Council Old Capitol Annex 300 West Broadway Frankfort, KY 40601 Phone: 502-564-3757 FAX: 502-564-2839

Web site: www.kyarts.org/

Kentucky Art & Craft Foundation

609 West Main Street Louisville, KY 40202 Phone: 502-589-0102 FAX:502-589-0154

Web site: http://kentuckycrafts.org

Kentucky Craft Marketing Program

39 Fountain Place Frankfort, KY 40601-1942 Phone: 502-564-8076 FAX:502-564-5696

Web site: www.state.ky.us/agencies/

crafts/crfthome.htm

Kentucky Guild of Artists and

Craftsmen 120 N. Broadway P.O. Box 291 Berea, KY 40403 Phone: 859-986-3192 FAX859-985-9114

Web site: www.kyguild.org

Louisiana

Louisiana Division of the Arts P.O. Box 44247 Baton Rouge, LA 70804 Phone: 225-342-8180 FAX: 225-342-8173

Web site: www.crt.state.la.us/arts/

Maine

Maine Arts Commission 193 State Street Augusta, ME 04333 Phone: 207-287-2724 FAX:207-287-2725

Web site: www.mainearts.com/

Maine Crafts Association

15 Walton Street Portland, ME 04103 Phone: 207-780-1807 Web site: http://

mainecrafts.maine.com/

United Maine Craftsmen 16 Old Winthrop Road, #2 Manchester, ME 04351 Phone: 207-621-2818 FAX:207-621-1945

Web site: http://mainecraftsmen.org

Maryland

Maryland State Arts Council 175 West Ostend Street

Suite E

Baltimore, MD 21230 Phone: 410-767-6555 FAX:410-333-1062 Web site: www.msac.org/

Massachusetts

Massachusetts Cultural Council 10 St. James Avenue 3rd Floor Boston, MA 02116-3803 Phone: 617-727-3668 FAX: 617-727-0044

Web site:

www.massculturalcouncil.org/

Society of Arts and Crafts 175 Newbury Street Boston, MA 02116

Phone: 617-266-1810

Web site: www.societyofcrafts.org

Michigan

Michigan Council for Arts & Cultural Affairs 525 West Ottawa P.O. Box 30705 Lansing, MI 48909-8205 Phone: 517-241-4011 FAX: 517-241-3979

Web site: www.cis.state.mi.us/arts/

Michigan Guild of Artists and Artisans 118 N. Forth Avenue

Ann Arbor, MI 48104-1402 Phone: 734-662-3382 FAX: 734-662-0339

Web site: http://michiganguild.org/

Minnesota

Minnesota State Arts Board Park Square Ct. 400 Sibley Street Suite 200 St. Paul, MN 55101

Phone: 651-215-1600 FAX: 651-215-1602

Web site: www.arts.state.mn.us/

Minnesota Crafts Council Hennepin Center for the Arts 528 Hennepin Avenue

Ste. 216

Minneapolis, MN 55403 Phone: 612-333-7789 Web site: www.mncraft.org/

Mississippi

Mississippi Arts Commission 239 North Lamar Street 2nd Floor Jackson, MS 39201 Phone: 601-359-6030 FAX: 601-359-6008

Web site: www.arts.state.ms.us/

Craftsmen's Guild of Mississippi 1150 Lakeland Drive Jackson, MS 39216 Phone: 601-981-0019 FAX: 601-981-0488

Web site: www.mscraftsmensguild.org/

Missouri

Missouri Arts Council 111 North 7th Street Ste. 105

St. Louis, MO 63101-2188 Phone: 314-340-6845 FAX: 314-340-7215

Web site:

www.missouriartscouncil.org/

Craft Alliance 6640 Delmar St. Louis, MO 63130 Phone: 314-725-1177 FAX: 314-725-2068

Web site: www.craftalliance.org

Montana

Montana Arts Council P.O. Box 202201 Helena, MT 59620 Phone: 406-444-6430 FAX: 406-444-6548

Web site: www.art.state.mt.us/

Nebraska

Nebraska Arts Council Joslyn Carriage House 3838 Davenport Street Omaha, NE 68131-2329 Phone: 402-595-2122 FAX: 402-595-2334 Web site:

www.nebraskaartscouncil.org

Nevada

Nevada Arts Council 716 N. Carson Street Suite A Carson City, NV 89701 Phone: 775-687-6680 FAX: 775-687-6688

Web site: http://dmla.clan.lib.nv.us/

docs/arts/

New Hampshire

New Hampshire State Council on the Arts 40 North Main Street Concord, NH 03301-4974 Phone: 603-271-2789 FAX: 603-271-3584

Web site: www.state.nh.us/nharts/

League of New Hampshire Craftsmen 205 N. Main Street Concord, NH 03301-5080 Phone: 603-224-3375 FAX: 603-225-8452 Web site: www.nhcrafts.org

New Jersey

New Jersey State Council on the Arts 225 West State Street Trenton, NJ 08625 Phone: 609-292-6130 FAX: 609-989-1440 Web site: www.njartscouncil.org

New Jersey Designer Craftsmen 65 Church Street New Brunswick, NJ 08901-1242 Phone: 908-246-4066

New Mexico

New Mexico Arts P.O. Box 1450 Santa Fe, NM 87504-1450 Phone: 505-827-6490

Phone: 505-827-6490 FAX: 505-827-6043 Web site: www.nmarts.org/

New York
New York State Council on the Arts
175 Varick Street
3rd Floor
New York, NY 10014

Phone: 212-627-4455 FAX: 212-620-5911 Web site: www.nysca.org

North Carolina

North Carolina Arts Council Jenkins House 221 East Lane Street Raleigh, NC 27699-4632 Phone: 919-733-2821 FAX: 919-733-4834 Web site: www.ncarts.org/

Piedmont Craftsmen 1204 Reynolda Rd.

Winston-Salem, NC 27104-1121

Phone: 336-725-1516 FAX: 336-722-6038 Web site:

www.piedmontcraftsmen.com

Southern Highland Craft Guild P.O. Box 9545 Asheville, NC 28815

Asneville, NC 28815 Phone: 828-298-7928 FAX: 828-298-7962 Web site: http://

southernhighlandguild.org/

North Dakota

North Dakota Council on the Arts 418 E. Broadway Suite 70 Bismarck, ND 58101-4086 Phone: 701-328-3954 FAX: 701-328-3963

Web site: www.state.nd.us/arts/

Ohio

Ohio Arts Council 727 East Main Street Columbus, OH 43205 Phone: 614-466-2613 FAX: 614-466-4494

Website: www.oac.state.oh.us/

Ohio Designer Craftsmen 1665 West Fifth Avenue Columbus, OH 43212-2315 Phone: 614-486-7119 FAX: 614-486-7110

Web site: www.ohiocraft.org/

Oklahoma

Oklahoma Arts Council P.O. Box 52001-2001 Oklahoma City, OK 73152-2001 Phone: 405-521-2931 FAX: 405-521-6418 Web site: www.oklaosf.state.ok.us/

/eu site. www.okiaosi.state.ok

~arts/

Oregon

Oregon Arts Commission 775 Summer Street NE Suite 200 Salem, OR 97310 Phone: 503-986-0088

FAX: 503-986-0260

Web site: http://art.econ.state.or.us/

Pennsylvania

Pennsylvania Council on the Arts Room 216, Finance Building Harrisburg, PA 17120 Phone: 717-787-6883 FAX: 717-783-2538

Web site: www.artsnet.org/pca/

Pennsylvania Guild of Craftsmen 10 Stable Mill Trail Richboro, PA 18954 Phone: 215-579-5997 FAX: 215-504-0650 Web site:

www.pennsylvaniacrafts.com/

Rhode Island

Rhode Island State Council on the Arts 83 Park Street, 6th Floor Providence, RI 02903 Phone: 401-222-3880 FAX: 401-222-3018

Web site: www.risca.state.ri.us/

South Carolina

South Carolina Arts Commission 1800 Gervais Street Columbia, SC 29201 Phone: 803-734-8696 FAX: 803-734-8526

Web site: www.state.sc.us/arts/

South Dakota

South Dakota Arts Council 800 Governors Drive Pierre, SD 57501-2294 Phone: 605-773-3131 FAX: 605-773-6962

Web site: www.sdarts.org

Tennessee

Tennessee Arts Commission 401 Charlotte Avenue Nashville, TN 37243-0780 Phone: 615-741-1701 FAX: 615-741-8559

Web site: www.arts.state.tn.us/

Tennessee Association of Craft Artists P.O. Box 120066 Nashville, TN 37212-0066 Phone: 615-385-1904 FAX: 615-385-1909

Web site: www.korrnet.org/taca/

Texas

Texas Commission on the Arts P.O. Box 13406 Austin, TX 78711-3406 Phone: 512-463-5535 FAX: 512-475-2699

Web site: www.arts.state.tx.us/

Utah

Utah Arts Council 617 E. South Temple Salt Lake City, UT 84102 Phone: 801-236-7555 FAX: 801-236-7556

Web site: www.arts.utah.org

Utah Designer Craft Alliance c/o Steve Hansen, Treasurer P.O. Box 481

Brigham City, Utah 84302

Web site: www.utahdesignercraft.org/

Vermont

Vermont Arts Council 136 State Street Drawer 33 Montpelier, VT 05633-6001 Phone: 802-828-3291 FAX: 802-828-3363 Web site:

www.vermontartscouncil.org/

Vermont State Craft Center at Frog Hollow

One Mill Street Middlebury, VT 05753 Phone: 802-388-3177 FAX: 802-388-5020

Web site: www.froghollow.org/

index.html

Vermont Crafts Council 104 Main Street Montpelier, VT 05602 Phone: 802-223-3380

Web site: www.vermontcrafts.com

Virginia

Virginia Commission for the Arts 223 Governor Street 2nd Floor Richmond, VA 23219

Phone: 804-225-3132 FAX: 804-225-4327

Web site: www.arts.state.va.us/

Artisans Center of Virginia 601 Shenandoah Village Drive Waynesboro, VA 22980 Phone: 540-946-3294 FAX: 540-946-3296

Web site:

www.artisanscenterofvirginia.org

Association of Virginia Artisans 327 West Main Street P.O. Box 130 Waynesboro, VA 22980 Phone: 540-943-9282 Web site: http://monticello.avenue.org/

ava/

Washington

Washington State Arts Commission 234 East 8th Street Olympia, WA 98504-2675 Phone: 360-753-3860 FAX: 360-586-5351

Web site: www.arts.wa.gov/

West Virginia

West Virginia Commission on the Arts 1900 Kanawha Boulevard East Charleston, WV 25305 Phone: 304-558-0240 FAX: 304-558-2779

Web site: www.wvculture.org/arts/

index.html

Wisconsin

Wisconsin Arts Board 101 East Wilson Street 1st Floor Madison, WI 53702

Phone: 608-266-0190 FAX: 608-267-0380

Web site: www.arts.state.wi.us

Wyoming

Wyoming Arts Council 2320 Capitol Avenue Cheyenne, WY 82002 Phone: 307-777-7742 FAX: 307-777-5499

Web site: http://wyoarts.state.wy.us/

National

American Craft Council 72 Spring Street New York, NY 10012-4019 Phone: 212-274-0630 FAX: 212-274-0650

Email: library@craftcouncil.org Web site: www.craftcouncil.org

This directory was obtained and published with permission from the American Craft Council.

American Association of Woodturners

3499 Lexington Ave. N.

Suite 103

Shoreview, MN 55126 Phone: 651-484-9094 FAX: 651-484-1724

Email: woodturner@qwest.net Web site: www.woodturner.org

The Furniture Society

Box 18

Free Union, VA 22940 Phone: 434-973-1488 FAX: 434-973-0336

Email: mail@furnituresociety.org Web site: www.furnituresociety.com

For additional information or copies, please contact:

Edward T. Cesa Marketing Specialist

Forest Resources Management

Northeastern Area, State and Private Forestry

USDA Forest Service 180 Canfield Street

Morgantown, WV 26505 Phone: 304-285-1536

FAX: 304-285-1505 Email: ecesa@fs.fed.us Edward A. Lempicki

Utilization and Marketing Specialist Bureau of Forest Management New Jersey Forest Service 501 East State Street

PO Box 404

Trenton, NJ 08625-0404 Phone: 609-292-2531 FAX: 609-984-0378

Email: elempick@dep.state.nj.us