

Harvesting Urban Wood

**A Field Guide to Harvesting
& Selecting Urban Sawlogs**

**By
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Photos by Janet Pearce, DNR Communications Manager,
and Nikkole Hughes, DNR Intern.

Why Use Urban Wood?

In many communities across the United States, urban wood is an undervalued natural resource. Routine tree removals have the opportunity to provide valuable wood for community projects, such as green building, indoor and outdoor furniture, historic preservation, and public art. Utilizing urban wood can also reduce the cost of log disposal, provide an alternative to firewood, and retain the value of a community asset.

Markets for Urban Wood

Before setting logs aside for utilization, you should identify local markets and end-users for urban wood. Many artisans and wood crafters are turning to urban wood salvage for their work, producing goods such as wood paneling, architectural detail, furniture, flooring, and art. In Washington, a database of specialty sawmills can be found at <http://ext.nrs.wsu.edu/forestryext/sawmill/>. Local non-profit groups and other public entities may also serve as appropriate end markets for urban wood. Once an end-user is identified, contact them for desired log lengths, tree species, and grain characteristics.



The center arch and other components of this traditional Japanese tea house at The Evergreen State College is made from urban wood salvage

Markets for Urban Wood (cont.)



This Japanese gate, located at The Evergreen State College, is also made in part from urban wood salvage.



Glossary of Terms

Bole – the trunk of a tree

Burl – a deformity of tree grain growth in which the wood forms a rounded mass around several small knots from dormant buds. Popular among artisans for its unique grain pattern.

Crotchwood - wood from a tree crotch or fork, characterized by a swirling, irregular figure and used for furniture and veneers

DBH – the diameter of a tree at breast height (4.5 feet above the ground)

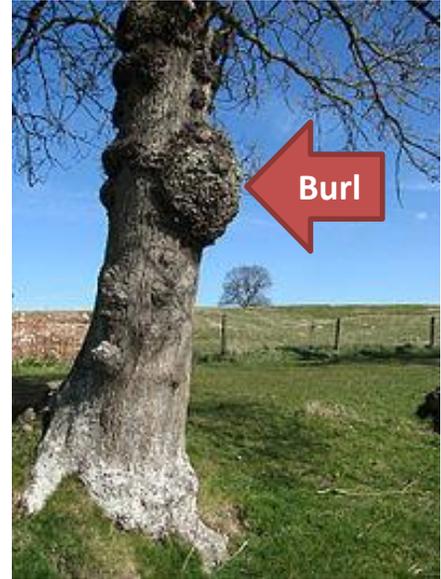


Photo Source:
[Wikipedia](#)



Crotchwood slabs.
Photo Source:
[Hammer Creek Hardwoods](#)

Glossary of Terms (cont.)

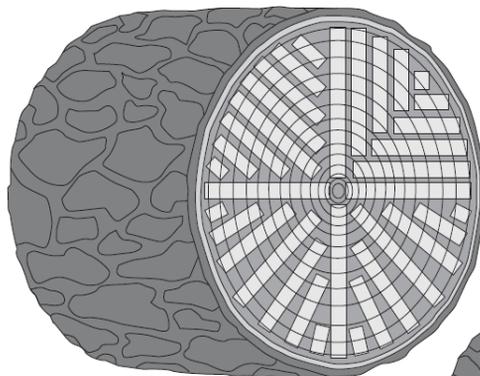
Sawlog – a felled tree trunk suitable for cutting up into timber

Topping – the severe cutting back of limbs in a mature tree's crown

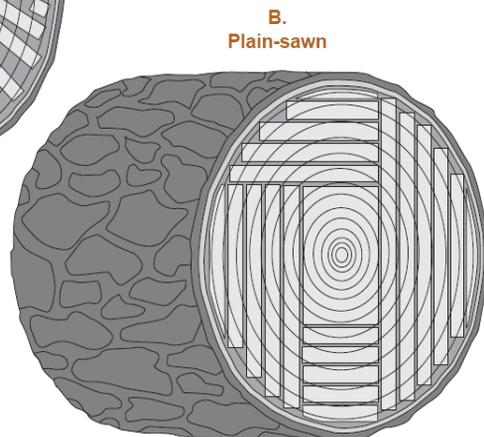
Quarter sawing – a method of sawing wood in which logs are sawn radially into quarters and then into boards



Topped tree. Photo Source: [Spokane Urban Forestry](#)



A.
Quartersawn



B.
Plain-sawn

Quarter sawing v. Plain sawing.
Photo Source: [University of Tennessee Extension](#)

Species Selection

While an end-use can be found for almost any tree species, some are more generally desirable than others. Ultimately, species desirability is dependent upon the intended market and end-use. Examples of species desirability are provided.

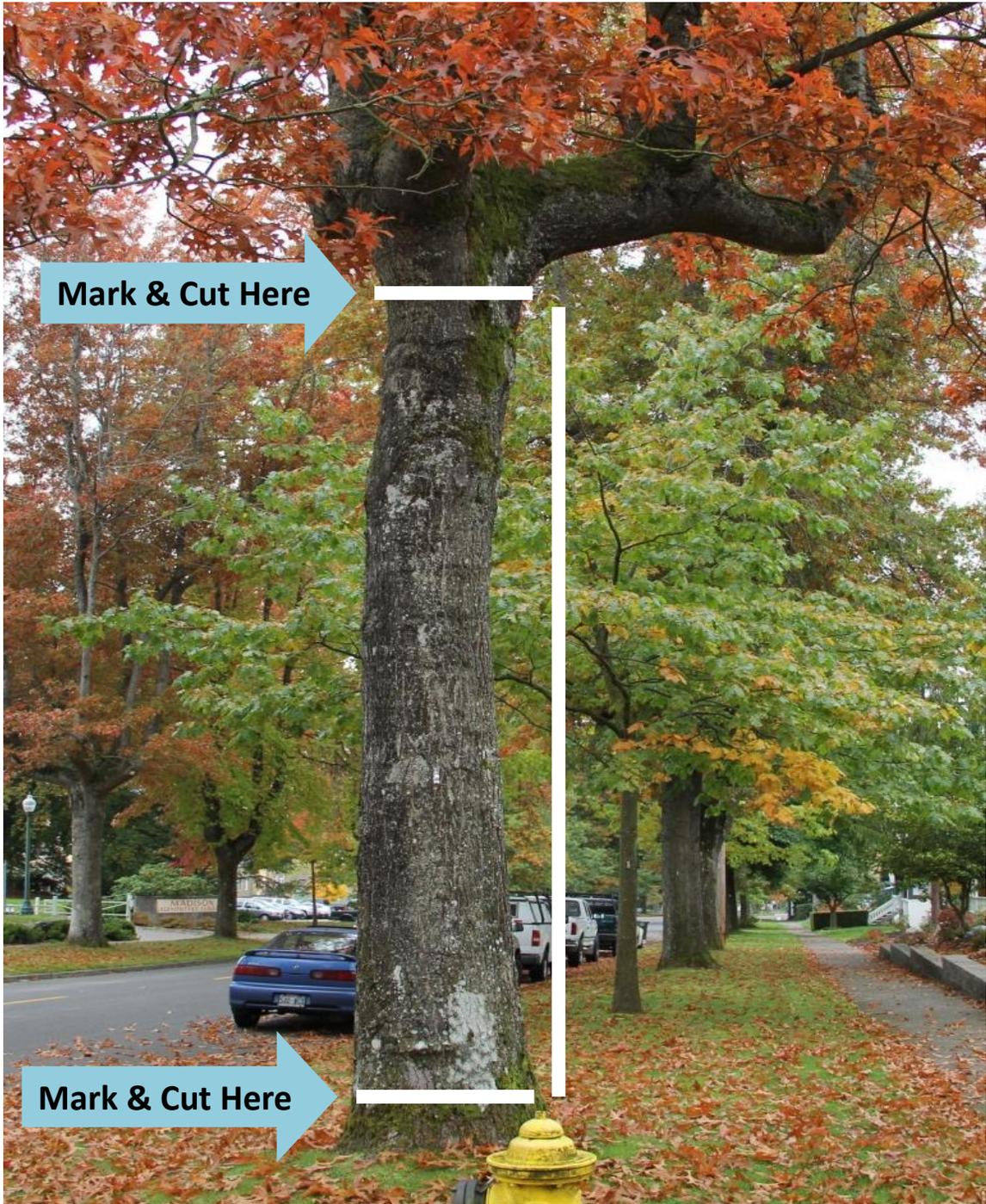
Best	Good	Fair	Poor
Walnut	Elm	White pine	Black cotton wood
Ash	Sweet gum	Western hemlock	Willow
Cedar	Poplar	Western larch	
Red oak	Black locust	Beech	
Cherry	Red alder	Douglas fir	
Pacific madrone	White oak		
Big leaf maple			

Selecting for Size

Measurements of DBH should be taken while trees are still in the ground. With paint, mark cutting points on the tree in order to obtain the maximum log length.

Best	Good	Fair	Poor
16" or larger diameter at small end of log	14" or larger at small end of log	10" or larger diameter at small end of log	8" or smaller diameter at small end of log
16' or longer in length	10' or longer in length	8' or longer in length	Less than 8' long

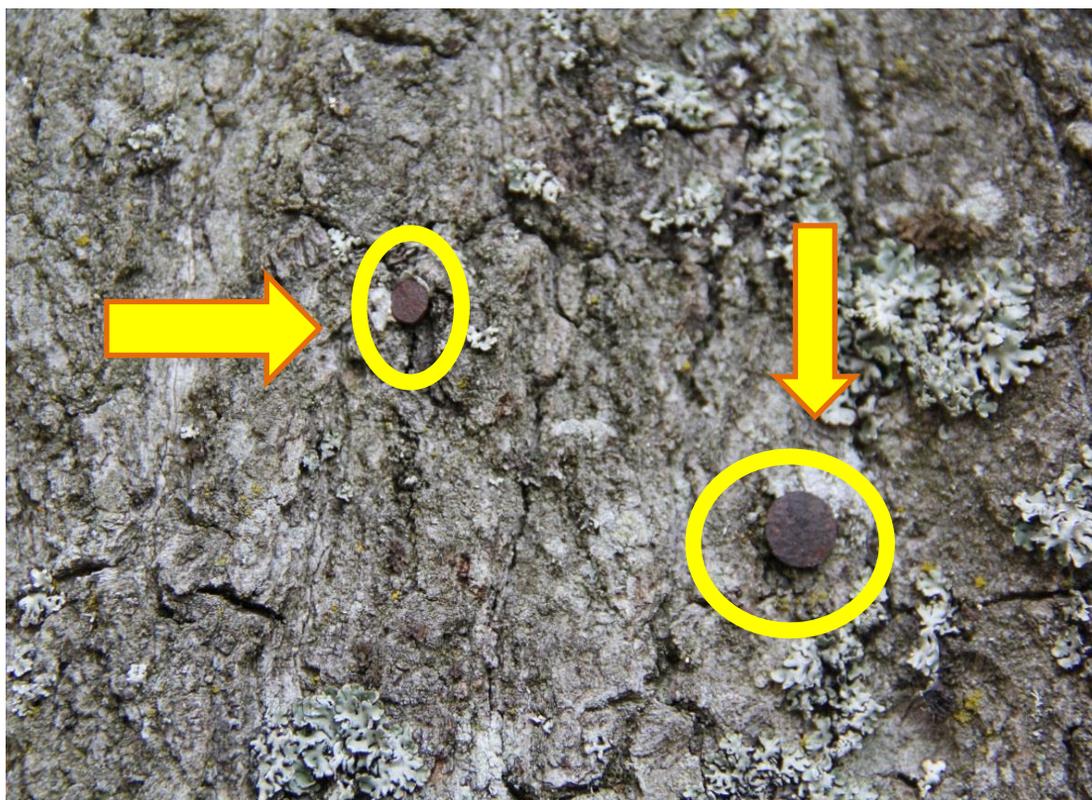
Maximizing Log Length



Identifying Suitable Trees

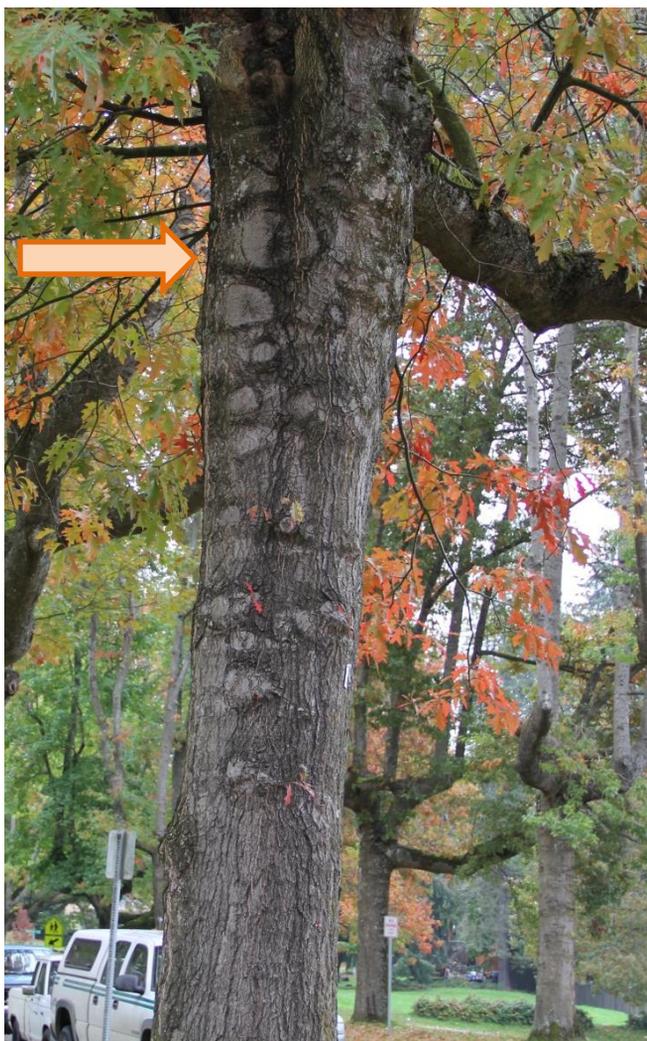
Visually inspecting trees for merchantable qualities prior to removal saves time and money.

- Boles should be free of significant rot, branches, holes, and cracks.
- Embedded metal must be identified both visually and with a metal detector and marked for removal.
- Unique characteristics, such as burls and crotchwood, should be accounted for when determining cut points.

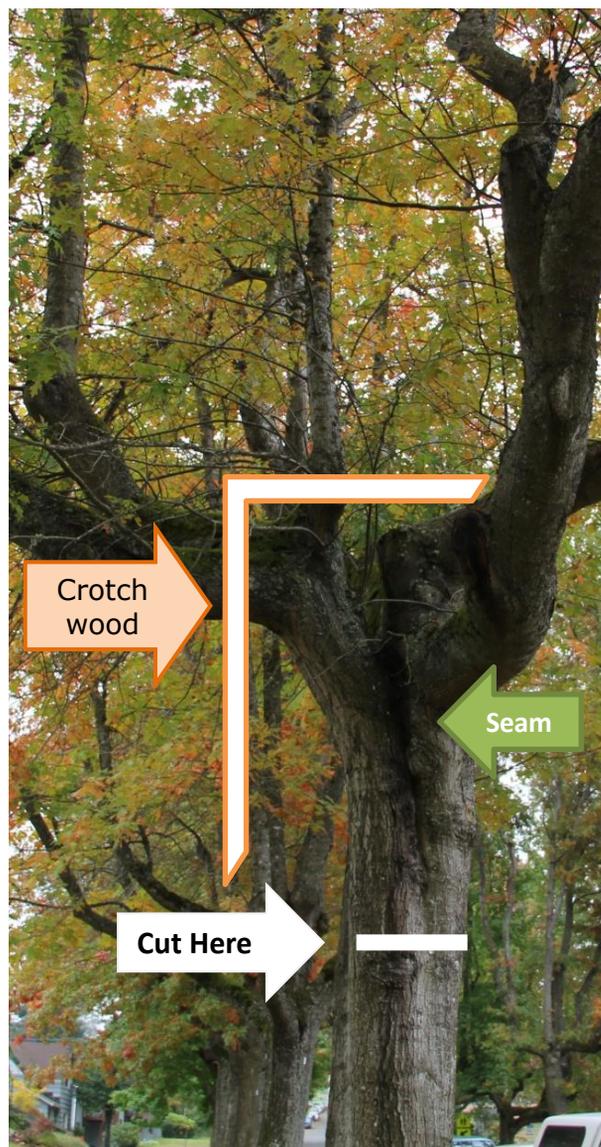


Embedded metal can ruin saw blades

Identifying Suitable Trees (cont.)

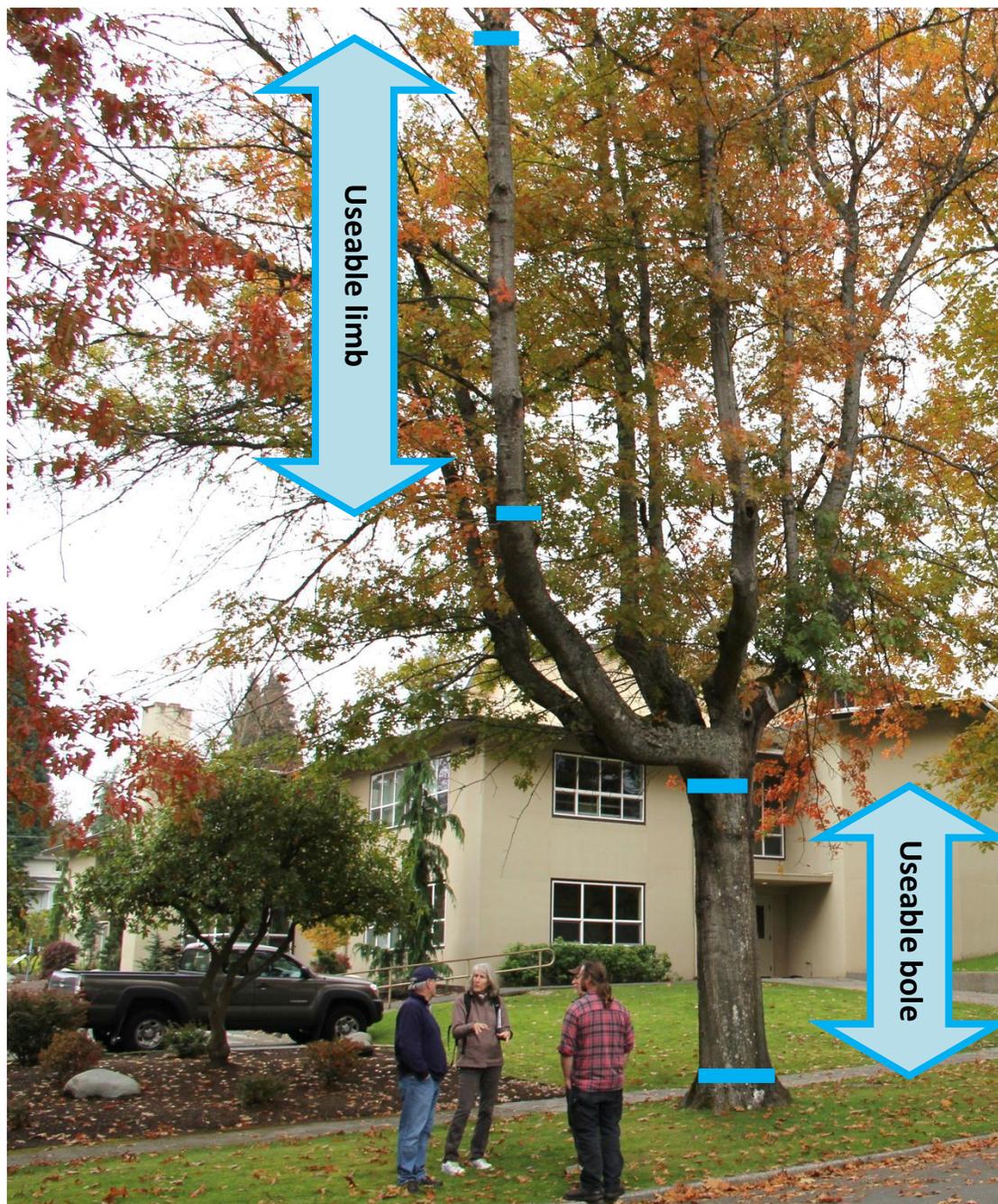


Quarter sawing this pin oak will turn its characteristic knots into rustic detailing for floorboards, paneling, or cabinetry.



If no market exists for crotchwood, cut below seams in the bole.

Identifying Suitable Trees (cont.)



Some large, straight limbs from topped trees can be used for both milling and non-milling purposes.

Removing Trees



The contract for this tree removal project along Legion Way in Olympia, WA, called for cutting large limbs into firewood and leaving the boles in log length.

Safety comes first. To avoid injury, follow all pertinent safety practices during both tree removal and wood-cutting processes.

Removing Trees (cont.)



Having a trailer on-hand during the removal process will facilitate transportation of firewood to its destination (in this case, the City of Olympia Wood Recycling Center).

Removing Trees (cont.)



Despite injury due to topping, cutting away major limbs of this pin oak revealed very little rot staining. During tree removals, take note of signs of rot and decay.

Removing Trees (cont.)



Limbs removed, the tree is now ready for safe removal. Situational awareness and proper safety precautions are especially important in urban environments.

The contract for this tree removal project specified maximum retention of the log length.

Removing Trees (cont.)



During felling, this log was guided to land safely in the planting strip, avoiding the sidewalk and road. It is important to follow best practices for safety during the removal process.

Removing Trees (cont.)



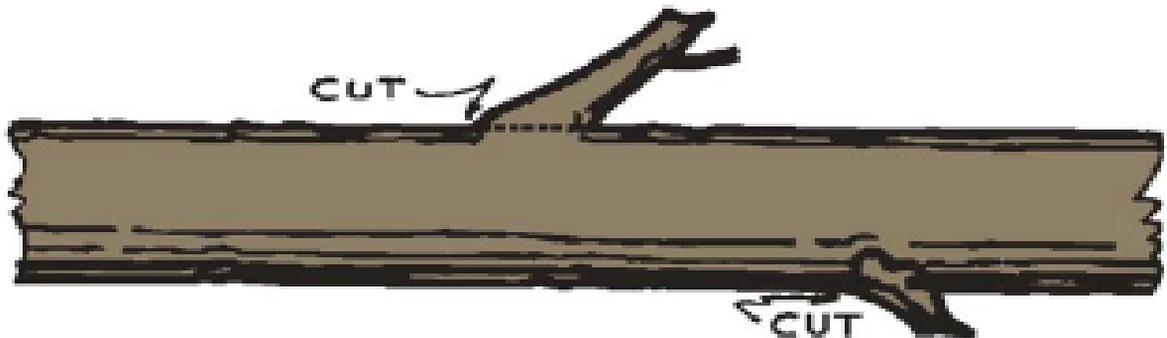
In order to preserve wood resources for utilization, it is important to have equipment on hand to transport logs directly to a storage site on the day they are harvested.

Cutting Sawlogs

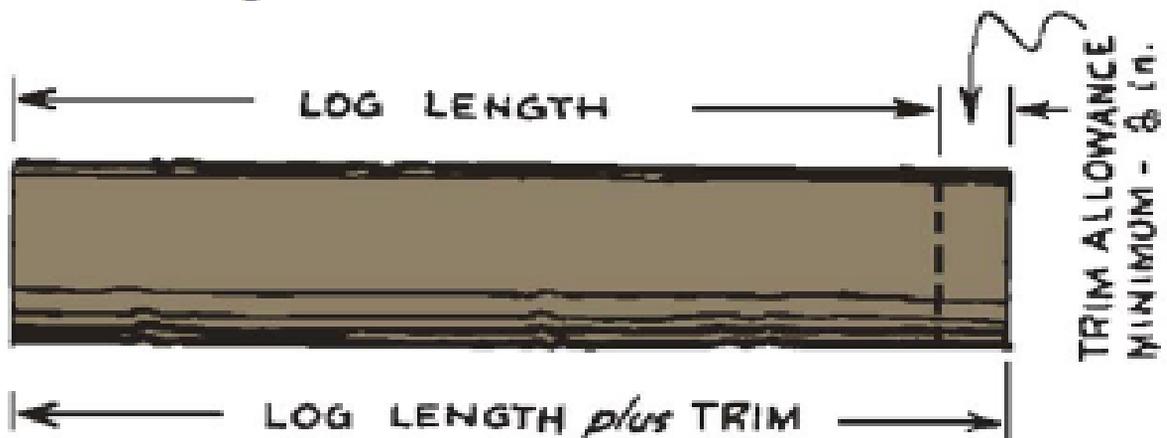
From Cesa et al. (1994)

Appendix B: Proper Log Manufacturing

The illustrations below show methods for properly manufacturing 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.



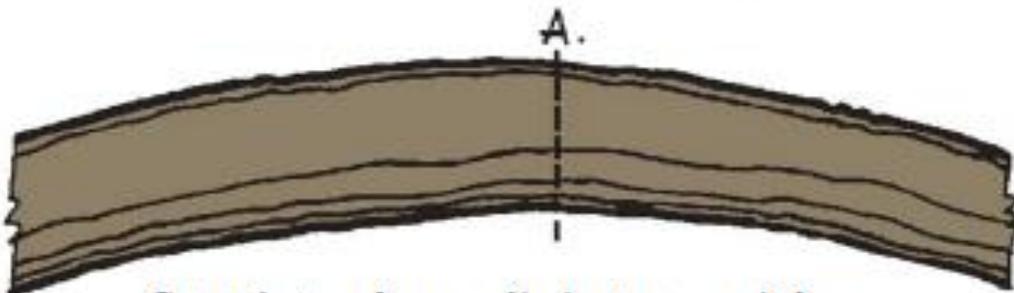
Always cut logs at least 2" longer. This is called trim allowance. Check with buyer before cutting logs to be sure of required trim allowance.

Cutting Sawlogs

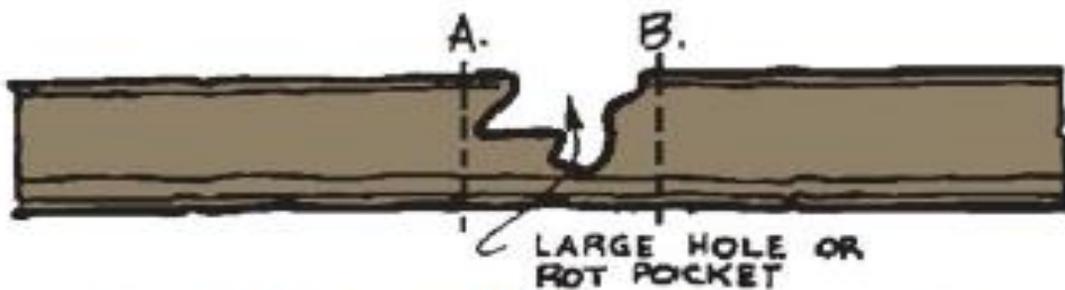
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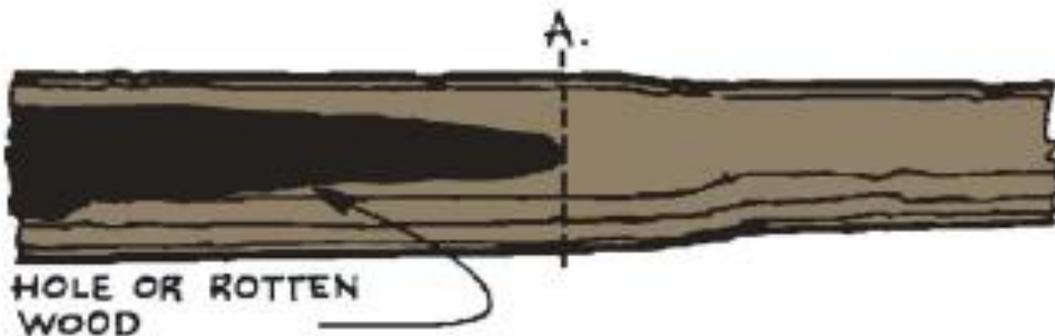
Normally, logs should be cut in back of crotch at A. However, this may not be true where a market exists for crotch wood.



Cut at A. to reduce or eliminate sweep in log.

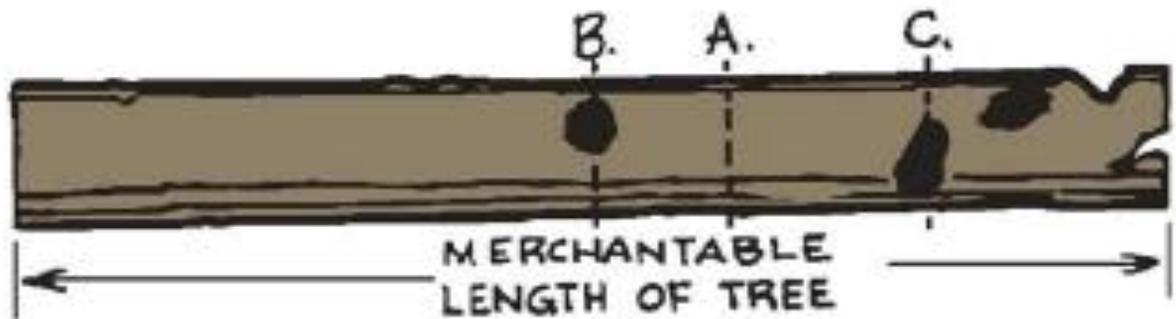


Make 2 logs. Cut at A. and B. if each log can be made 8 feet or longer.

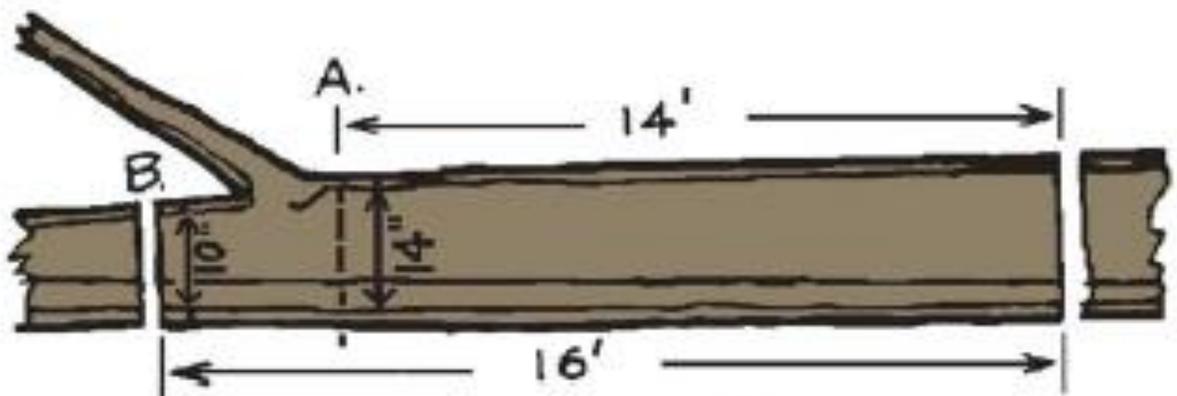


Cut at A. to avoid loss of footage.

Cutting Sawlogs



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.

Storing Logs

- Store logs in a dry, flat location where a self-loading dump truck could easily maneuver
- Keep bark on the logs to minimize risk of bug and fungi infestation
- Paint log ends with waterproof wood sealant to prevent checking (deep cracks in the ends of the log)
- Scan logs for and safely remove embedded metal debris using a metal detector
- Contact the sawmill or other end-user when a sufficient number of logs have accumulated (many sawmills cite 10 logs as optimal)



City of Olympia Wood Recycling Center

Using Old Logs

Depending on the storage site's conditions, some logs can be used up to a year after downing. When evaluating old logs for marketability, look for logs which are

- Relatively straight and at least 8' long and 16" in diameter
- Devoid of fungal growths, rot, and burrowing pests
- Sealed to prevent checking
- Characterized by unique grain features
- Suitable for the envisioned end-use



James Freed, WSU Extension, assessing log characteristics.

For More Information

Call, write, or email DNR's Urban and Community Forestry Program for more details regarding the Urban Wood Utilization Project. Additional urban forestry information can be found at <http://dnr.wa.gov/urbanforestry>.



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