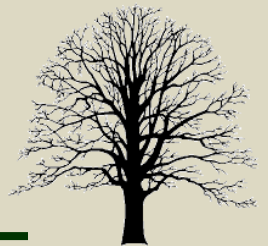




Logging Equipment



The Role of Loggers and Logging Equipment in Forest and Timber Management

- ❖ **Loggers play a critical role in the implementation of forest management recommendations.**
- ❖ **Loggers are highly skilled professionals who earn a living harvesting and selling forest products.**
- ❖ **Utilizing specialized logging equipment, they cut and remove the trees from the forest to a central location (landing or yarding area) where the cut logs can be loaded onto a truck and hauled to a sawmill, pulp mill or other wood processing plant.**
- ❖ **Professional loggers must know how to:**
 - 1. operate safely;**
 - 2. harvest trees without damaging standing residual trees (crop trees);**
 - 3. minimize impact to the environment i.e. soils, water, wildlife, etc.;**
 - 4. work under adverse weather conditions;**
 - 5. manage a business i.e. income, expenditures, labor costs, fuel costs, insurance, etc.;**
 - 6. operate, maintain and repair a wide variety of equipment;**
 - 7. comply with state and federal laws and regulations;**
 - 8. market forest products; and**
 - 9. earn a living doing all of the above and more!!**



Logging: # 1 in fatal work injuries

Chart 3. Civilian occupations with high fatal work injury rates, 2016



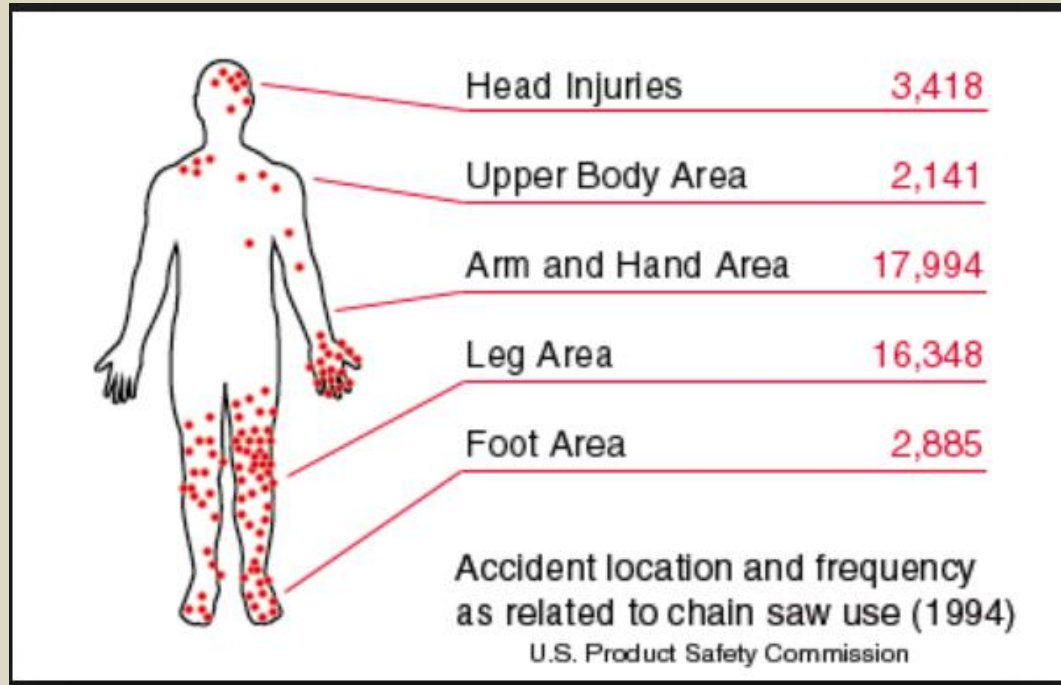
U.S. Department of Labor 2016 Statistics

Chainsaws and Personal Protective Equipment (PPE)

Used to cut wood. Gas powered two-stroke engine



**Not wearing
proper PPE!**



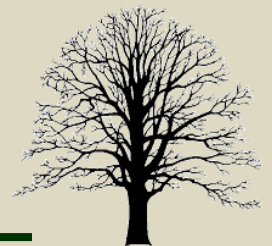
***Dangerous to operate without proper training!
PPE should always be worn and in good condition!***





Chainsaws and Personal Protective Equipment (PPE)

Used to cut wood. Gas powered two-stroke engine



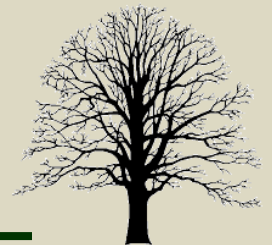
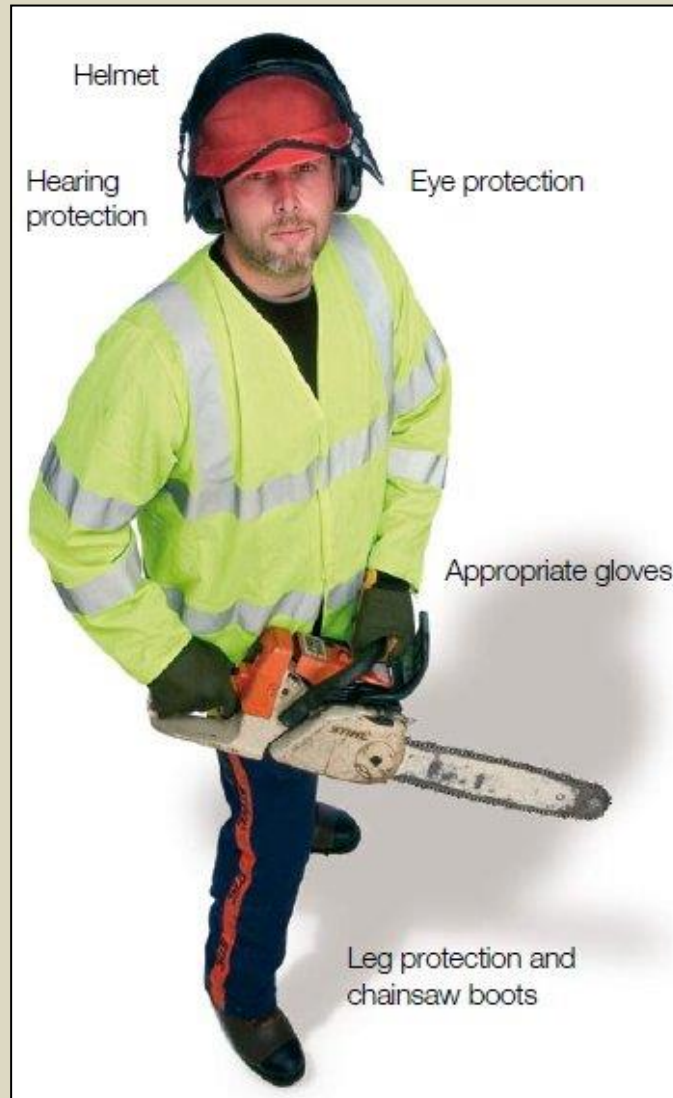
Chainsaw Safety Features & Personal Protective Equipment (PPE)

CHAINSAW SAFETY FEATURES

- Chain Brakes
- Safety Trigger Lock
- Spark Arrester
- Chain Catch Pin
- Hand Guards
- Sprocket-Nose Bar
- Low-Kickback Chain
- Anti Vibration Mounts
- Felling Sight



Kevlar fibers inside chaps designed to bind and stall a fully running chainsaw preventing a serious injury from occurring.



Rubber Tired Skidder

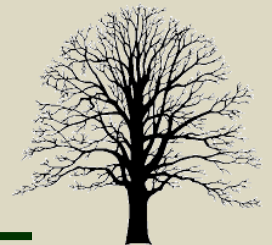


Articulated (bends in the middle) machine used to skid full length logs out of the woods to a landing area.

Cable skidder utilizes a hydraulic cable winch. Logger wraps chain or cable chokers around the log and attaches chokers to hardware at end of cable and winches logs up to back of machine.

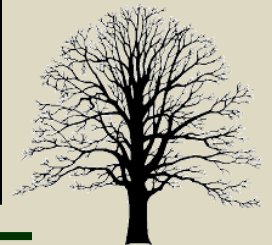


Grapple skidder utilizes a hydraulic grapple. Logger backs machine up to logs, lowers hydraulic grapple, clamps logs with hydraulic grapple.



Forwarder

Articulated machine with loader and bunks used to transport cut logs from the woods out to the landing area.

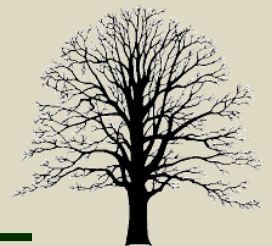




Feller Buncher

Tracked or rubber tired machine used to cut and bunch logs.

Bunched logs will be picked up and moved by a skidder or forwarder to the landing area.

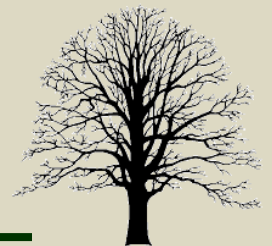


Harvester



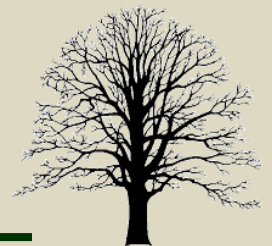
Used to cut trees. Usually has a processing head that can mechanically determine diameter of logs and lengths using an internal computer.

Harvester can cut trees and buck logs to lengths for skidder or forwarder to pick up.



Delimbers

**Used to strip branches off of tree.
Most often used in harvesting conifers.**



Log Loaders



Stationary trailer mounted loader

Hydraulic arm and grapple used to pick up logs.

Log loaders can be mounted on stationary trailers and used to load log trucks in the landing or mounted on log trucks, forwarders or excavators which makes the loader mobile.



Track mounted loader



Rubber tired loader



Log Trucks

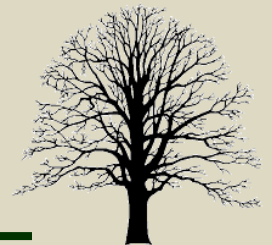


Log trailer

Used to transport logs from landing area in the woods to the sawmill, pulp mill or wood processing facility.



Tri-axle (3 axles in rear of truck) log truck with log loader



Wood Splitters and Firewood Processors



Wood splitter

Hydraulically controlled piston used to split firewood.

Firewood processors are designed to cut, split and load the firewood on to a conveyor all in one operation.



Firewood processor



Yarders



Used to harvest timber on terrain that is too steep for conventional logging equipment.

A central tower with lead cables and carriages that are used to winch the timber up to the yarder.



Loggers work on the steep slopes to cut the trees and wrap chokers around the cut trees to attach to the lead cables.

Referred to as “choker setters”.



Innovation in Logging Equipment



Loggers and equipment manufacturers are constantly seeking to innovate logging equipment that will minimize environmental impact and improve logger safety.

Mechanical harvesting equipment reduces the number of people that need to be on the ground, thereby reducing injuries and fatalities.

