

Non-Timber and Specialty Forest Products



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Green Grillin'
Natural Hardwood Charcoal

Lump Charcoal:

- Made locally from upland hardwoods
- Best flavor for your BBQ
- Lights fast! Ready to grill in 10 minutes
- Promotes sustainable forest management
- Low ash - burns hot and long
- Safe and easy to handle

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GREEN GRILLIN' CHARCOAL

We are producing natural charcoal in a small batch kiln. The advantages of Natural Charcoal are:

- It is made from Natural Hardwood from local forests.
- It adds flavor to your BBQ.
- It lights fast - in about 10-15 minutes.
- It burns clean, hot (200-300) and long (25-45 min).
- It produces a small batch kiln, safe and easy to handle.
- It promotes sustainable management of our forests.
- It provides income for small forest landowners.

Natural charcoal is made from hardwood wood. However wood is a finite resource and charcoal is a non-renewable resource. Therefore, natural charcoal producers need to be careful in the forest.

About Natural Charcoal

Natural charcoal is made from Appalachian hardwood species such as oak, maple, and hickory. It is not chemically treated or processed with any toxic chemicals. Natural charcoal is a safe, healthy, and environmentally friendly product. Unlike other charcoal products, natural charcoal does not contain any toxic chemicals and is safe for your health and the environment.

Natural charcoal burns hot and long and produces little ash compared to other charcoal. It is a healthy choice for your grill and your food.

To use your Green Grillin' Natural Charcoal:

1. Place the charcoal in a charcoal chimney or smoker.
2. Light the charcoal from the bottom.
3. Once the charcoal is lit, place the grill on top.
4. Cook your food as usual.

HOT ASHES PROPERLY

Virginia Forest Cover

Virginia Forest Cover

62 % Forest

Over 15.5 million acres



From year 2000 Landsat satellite imagery, classified by the Virginia Department of Forestry

2010 Population Density

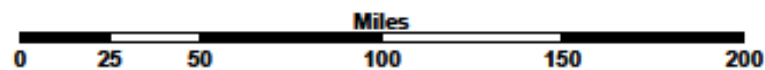
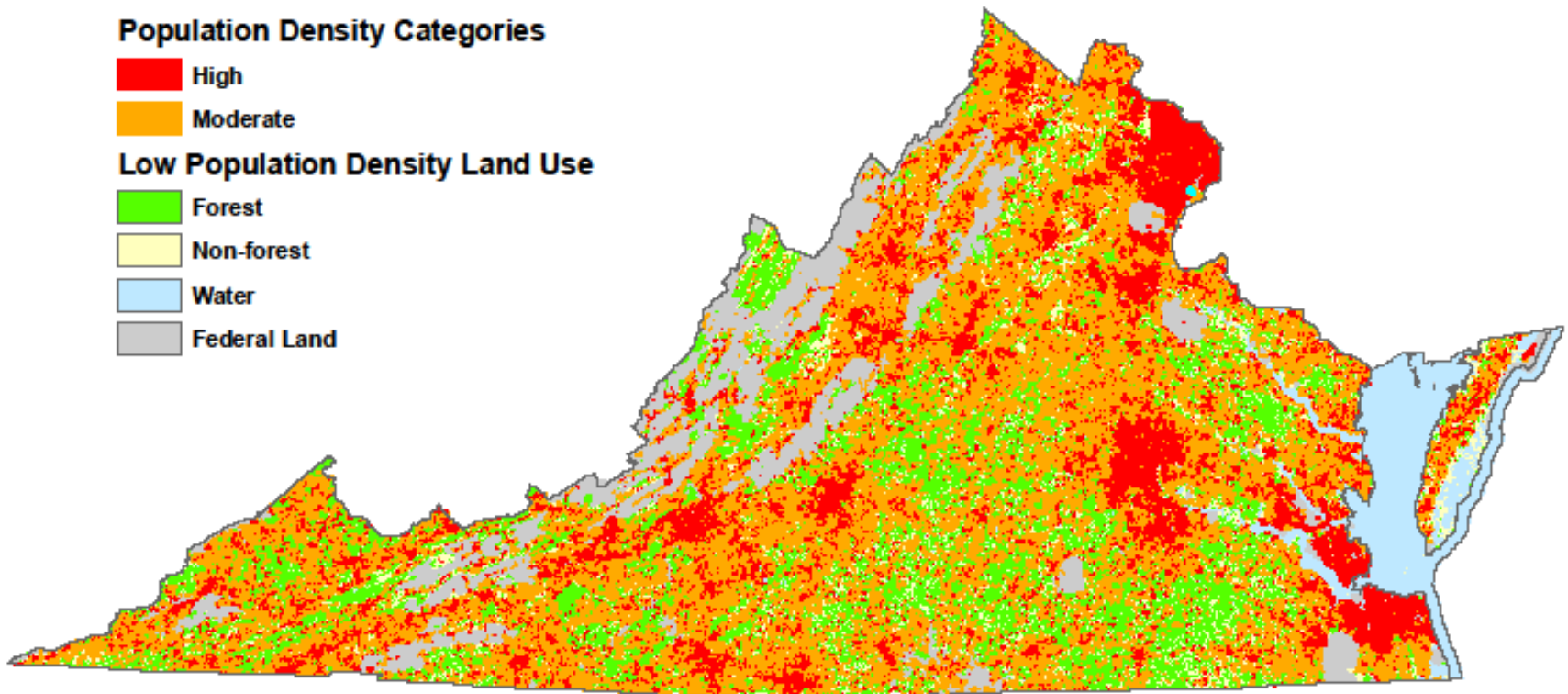
Legend

Population Density Categories

- High
- Moderate

Low Population Density Land Use

- Forest
- Non-forest
- Water
- Federal Land



Virginia has 15.5 million acres of forestland that provide:

- **Income**
- **Jobs**
- **Shelter**
- **Food**
- **Household and other goods**
- **Other natural resources**
- **Recreation**
- **Wildlife habitat**
- **Clean water**
- **Cleaner air**
- **Improved quality of life**

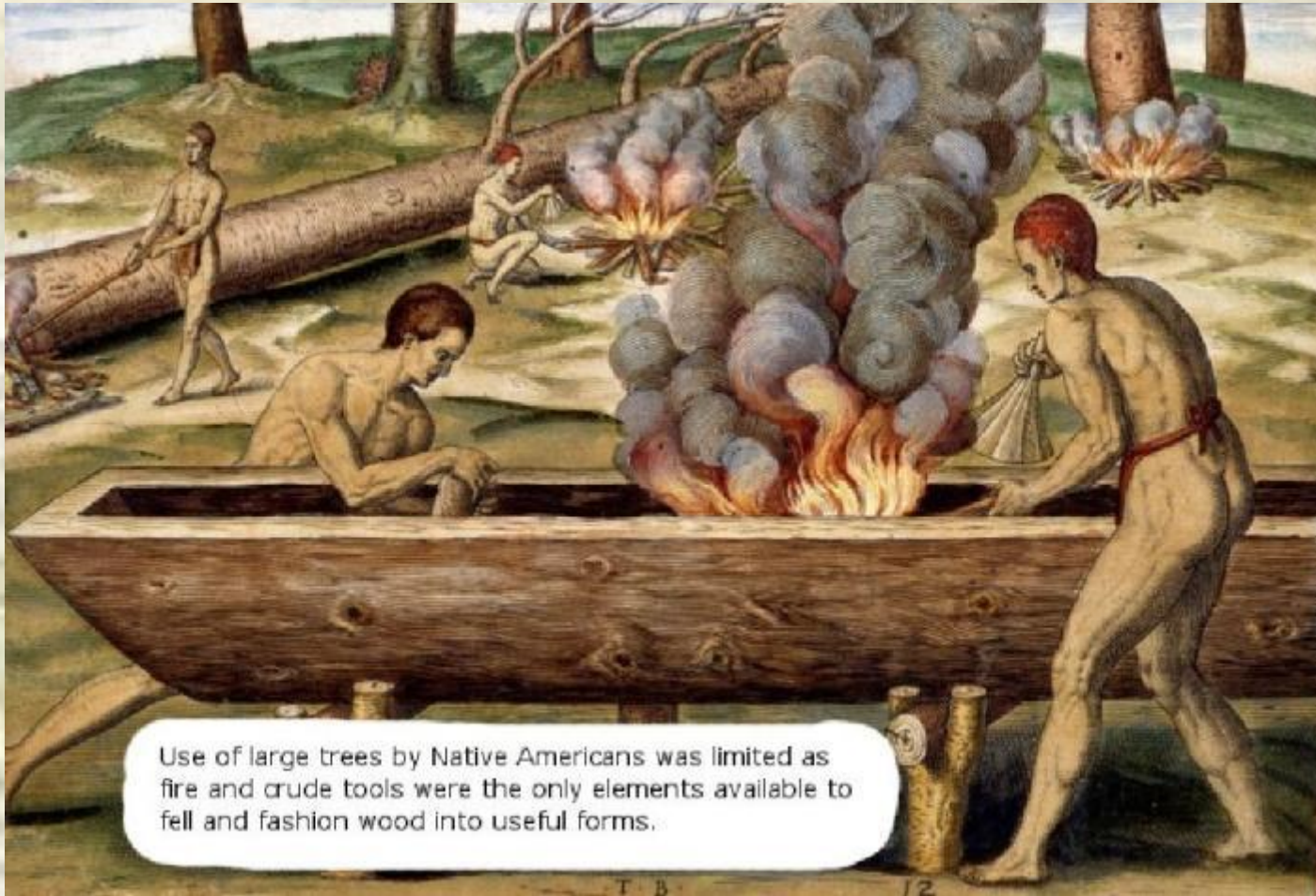
Annual Benefits From VA Forests

Forest Management	\$179 Million
Stumpage	\$276 Million
Logging	\$928 Million
Primary Processing	\$4.10 Billion
Secondary Processing	\$5.93 Billion
Indirect Impacts	\$3.06 Billion
Construction	\$3.82 Billion
Induced Impacts	\$6.91 Billion
Specialty Forest Products	\$60 Million
Wildlife-Related Recreation	\$1.52 Billion
Forest-Related Recreation	\$918 Million
Air Pollution Control	\$904 Million
Carbon Sequestering	\$832 Million
TOTAL	\$29.44 Billion

Historical Forest Use



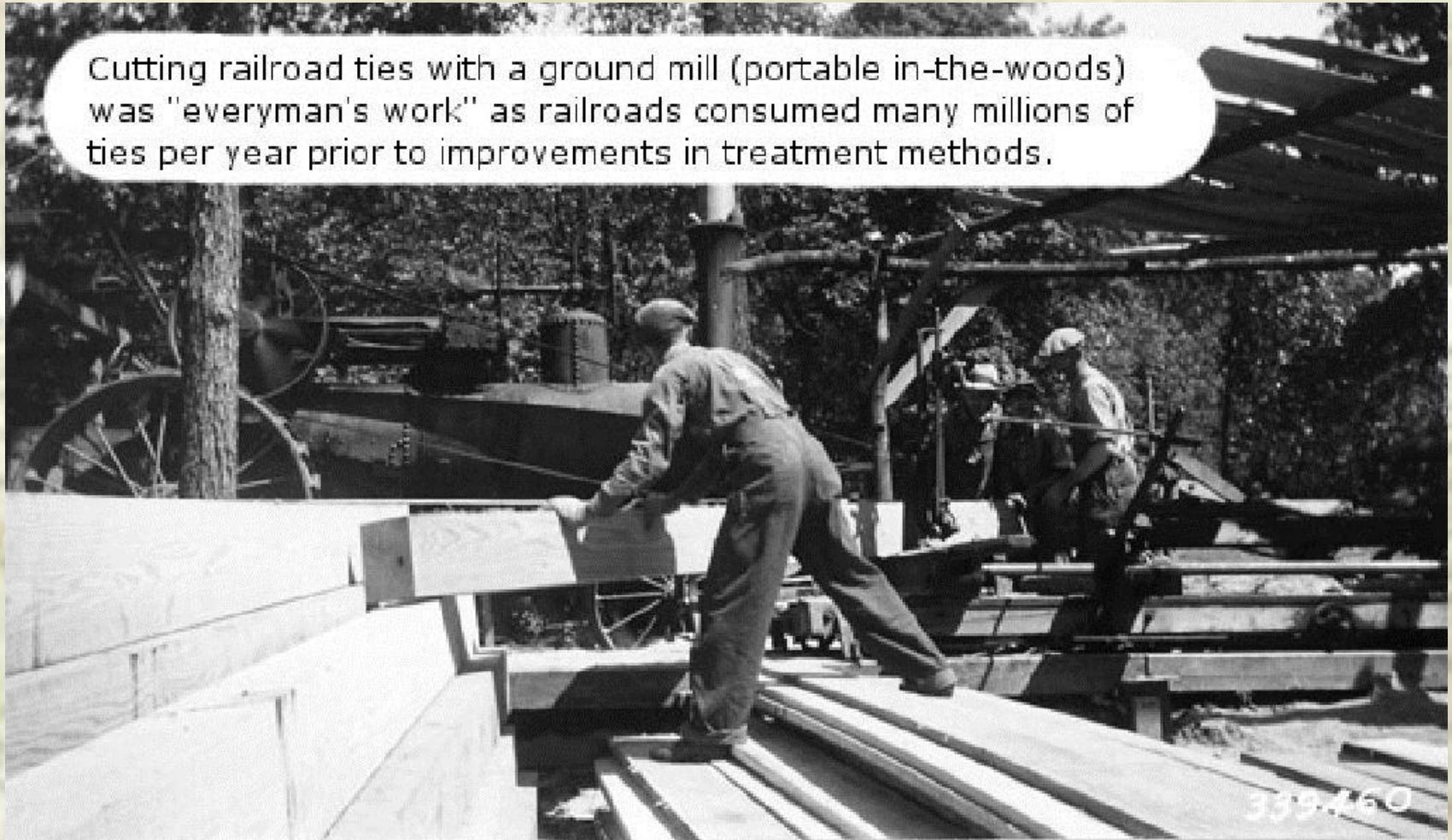
Historical Forest Use



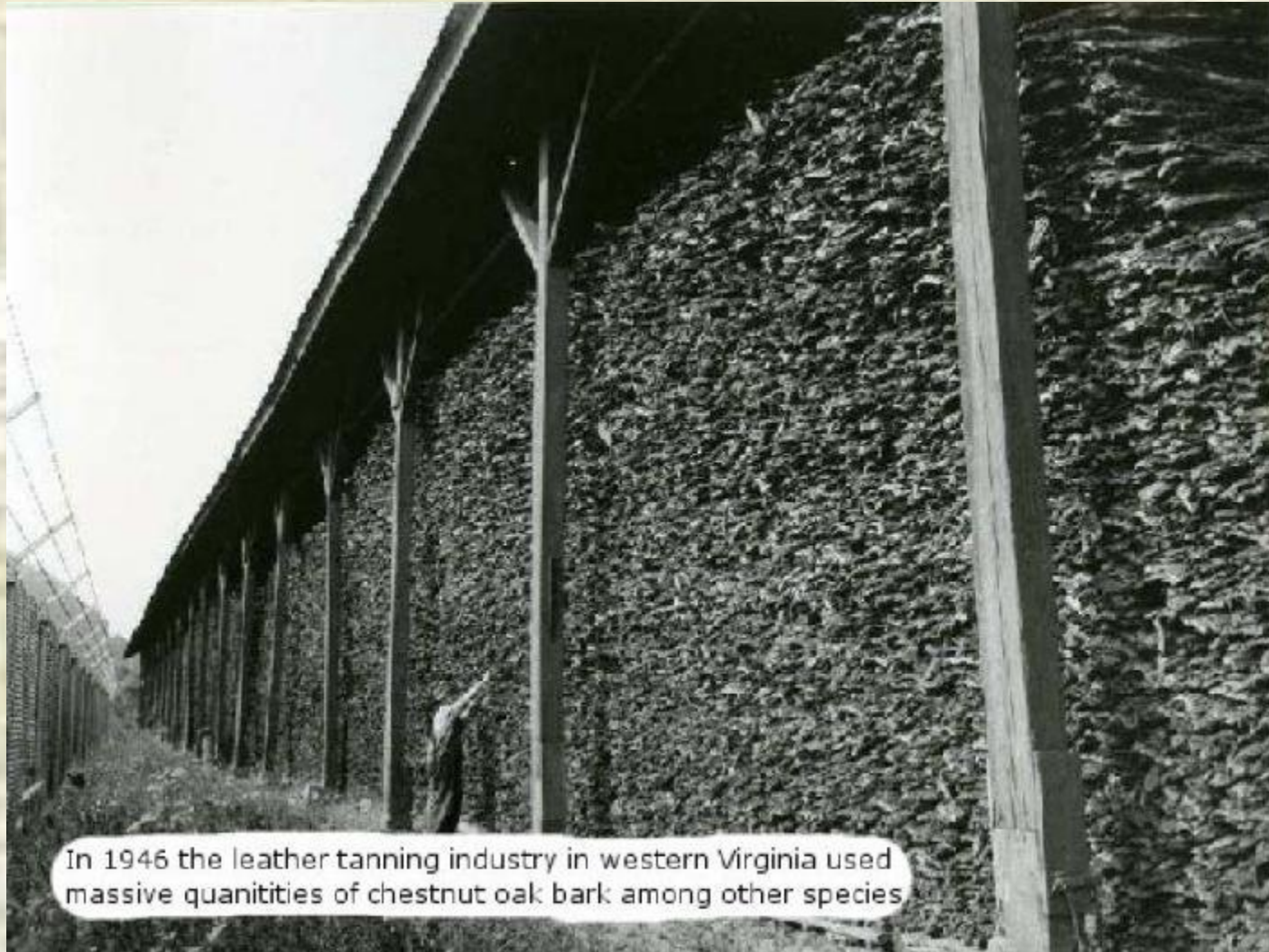
Use of large trees by Native Americans was limited as fire and crude tools were the only elements available to fell and fashion wood into useful forms.

Historical Forest Use

Cutting railroad ties with a ground mill (portable in-the-woods) was "everyman's work" as railroads consumed many millions of ties per year prior to improvements in treatment methods.

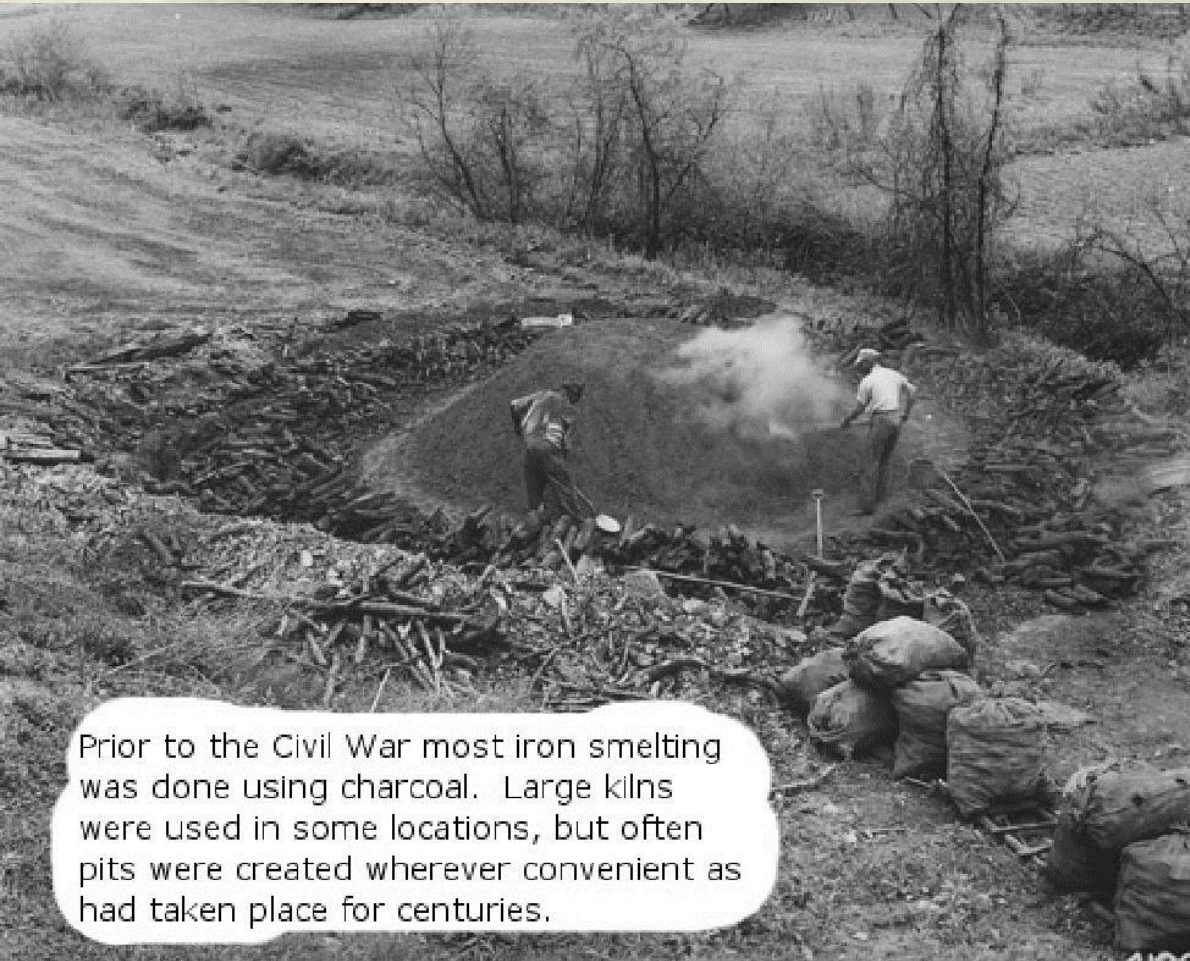


Historical Forest Use



In 1946 the leather tanning industry in western Virginia used massive quantities of chestnut oak bark among other species

Historical Forest Use



Prior to the Civil War most iron smelting was done using charcoal. Large kilns were used in some locations, but often pits were created wherever convenient as had taken place for centuries.



Historical Forest Use

Pine trees were scored and sap collected to make naval stores (pitch, tar, turpentine) in the days of the tall ships.



UGA1403056

Logs and Lumber



Paper Products



Post and Poles



Alternative Forest Products

Forest and Forest-related products that are limited due to unique conditions such as limited quantity, distribution of resource, seasonality of produce or market, processing needs, perishability, and types of customers.

Specialty products can demand more involvement with marketing raw resources and value-added processing than most traditional or commodity forest products, to be successful.

Ecosystem, Recreational and Other Services

- **Recreational Opportunities**
- **Eco-tourism**
- **Agro-tourism**
- **Ecosystem service**
 - Carbon and pollution credits
 - Nutrient credits
 - Wetland banking
 - Water quality and quantity

Available Markets Depend On:

- **Location** - The closer to the user of wood, the easier and usually more valuable the harvested products will be.
- **Species** - Many products are species dependent.
- **Size** – Larger sizes tend to be more valuable because more product can be produced in a shorter period of time, than with smaller items.

Available Markets Depend On:

- **Quantity** - The volume of materials that are available have a real impact on what markets are available, what management work can be done, and the type or size of equipment used.
- **Quality** - The higher the quality of product the more valuable and in demand it is. Quality can also include unique characteristics that are desirable such as birds-eye maple.

A combination of some or all of the above factors will determine what markets are available and the value of the materials.

To Receive the Greatest Benefits

Contractor and Equipment Should Match the Project:

- **Size and Type of Equipment**
- **Products Produced**
- **Markets Selected**
- **Any Value-Added Processing**

Feasibility Evaluations

- **Business planning and personal goals**
- **Inventory of resources and skills- capital investments, family members labor, equipment, buildings**
- **Potential markets, buyers, profits, and requirements of the buyers**
- **Shelf life – i.e. floral greenery, mushrooms, seasonal items**
- **State and Federal regulations- edible products, noxious weeds, out of state shipments, T&E species**

Sustainable Economic Development

- **Landowners/Harvesters need to learn all they can about a product**
- **Where is the raw material coming from?**
- **Legal rights to harvesting; poaching concerns.**
- **What is the cost of harvest, processing, packaging, and selling?**
- **What is the demand?**
- **How much is too much?**
- **Long term ecological impacts**

Chips, Shavings & Excelsior, Sawdust, Bark, and Pine Straw



- **Animal bedding and litter products**
- **Soil conditioners, amendments, mulches**
- **Landscape decorative products**
- **Packing material**



Animal Bedding

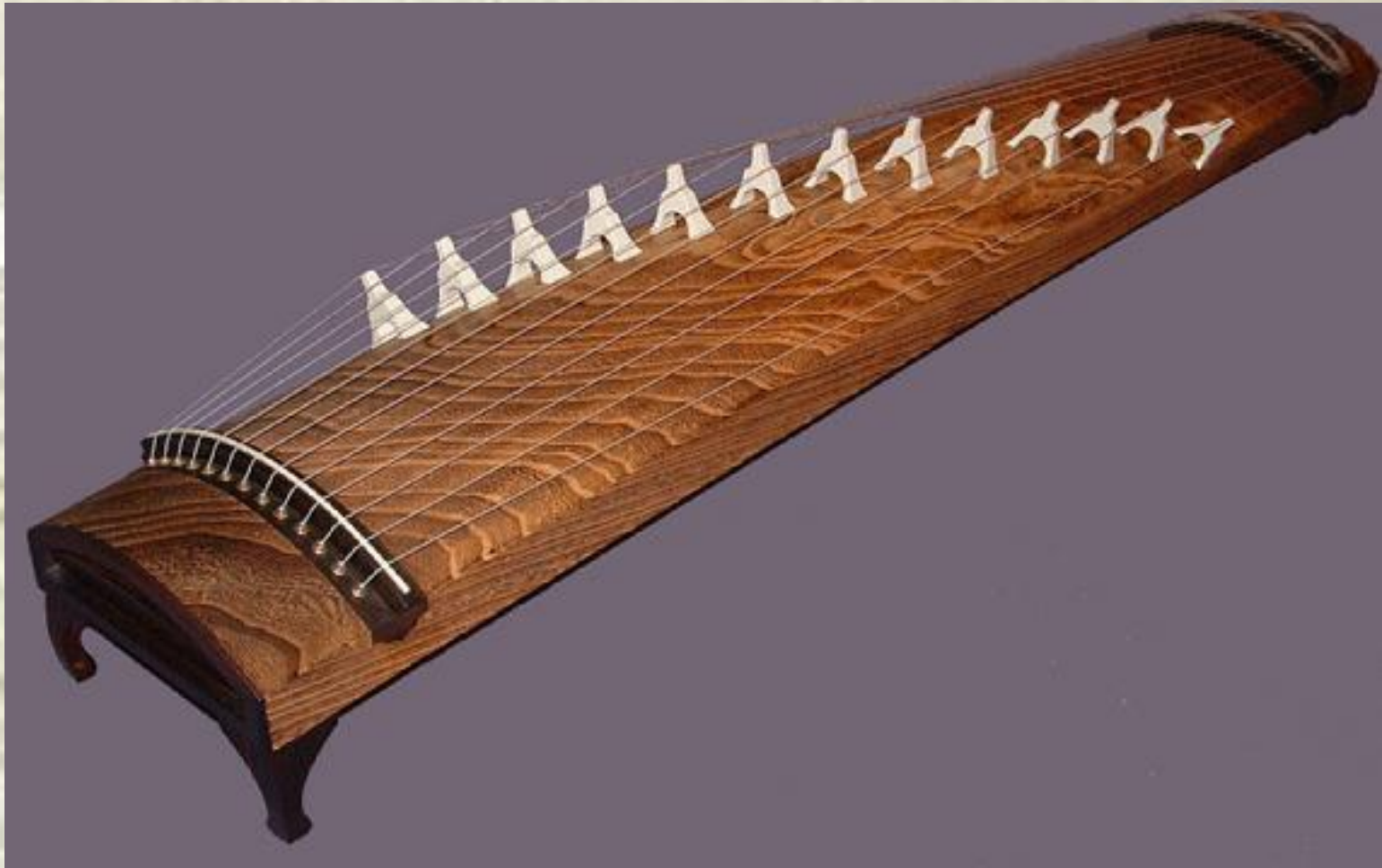


Invasive/Specialty Products



- Kudzu
- Honeysuckle
- Tree of Heaven
- Paulownia
- Bamboo
- Red Cedar
- Oriental Bittersweet

Prince Tree/ Paulownia Japanese Koto



Tree Of Heaven Bench, Chair & Table



Decorative Wood



- **Burls**
- **Walking canes**
- **Turning wood**
- **Basket material**
- **Taxidermy mounts**
- **Art projects**
- **Custom Furniture**

Weaving and Dyeing Materials



- Hemlock
- Lichens
- Oak wood and bark
- Willow
- Pine needles
- Leaves of cattails, rushes, sedges
- Vines of honeysuckle and Virginia creeper
- Kudzu

Cones and Seeds



- **Decorative cones for floral, wreath and potpourri products**
- **Seed Cones-for tree nurseries**
- **Price per pound varies from \$0.15- \$0.75/pound**

Greenery, Transplants, Floral Products



- Christmas trees, tips, greenery, boughs, holly, mistletoe,
- Native trees transplants (B&B)-Rhododendron, dogwood, magnolia
- Bark moss, Galax, grapevines, Spanish moss



Aromatic Oils



- **Balsam fir**
- **Birch**
- **Cedar leaf**
- **Hemlock**
- **Sassafras**
- **Spruce**
- **Cedar wood**
- **Wintergreen**

Medicinals and Pharmaceuticals



- Culinary uses
 - Herbs and Spices-St. John's wort
 - Edible Greens, Roots, or Tubers-wild garlick, sassafras
- Medicinal and Pharm.
 - Roots-Mayapple-pain killer
 - Herbs-Chickweed -iron
 - Leaves-Wintergreen-flavoring
 - Buds-Rosehips-Vitamin C

Syrup, Drinks, etc.



- Maple syrup
- Maple sugar
- Birch beer
- Sarsaparilla
- Sassafras tea
- Black Cherry

Berries and Wild Fruit



- Black cherry
- Blackberry
- Blueberry
- Chokeberry
- Crabapple
- Elderberry
- Gooseberry
- Huckleberry
- May haw
- Mulberry
- Papaw
- Persimmon
- Plum
- Stag horn sumac
- Prickly pear
- Autumn olive

Honey, beeswax, bee pollen



- Varieties –
Sourwood, tupelo,
yellow poplar
- Candles & Crafts
- Food
- Medicines

Mushrooms for food source



shiitake mushrooms



Hiroshi Takahashi

- Cultivated
 - Shiitake
 - Matsutake
 - Chanterelle
 - Oyster

Wild harvested

- Chanterelle
- Morels
- Matsutake
- Oyster

Nuts for food source



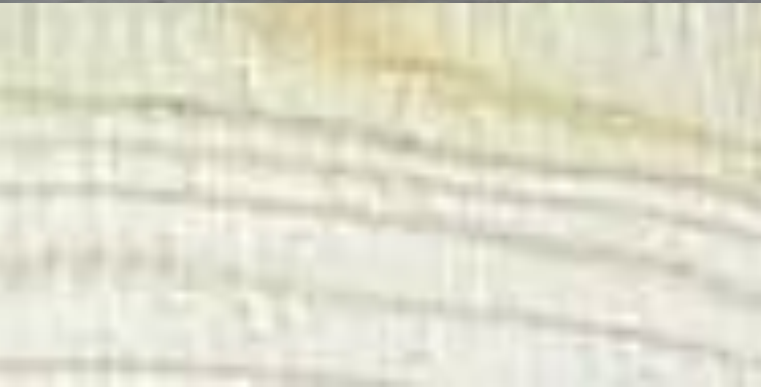
- **Beechnut**
- **Butternut**
- **Chestnut**
- **Golden chinquapin**
- **Hazel nut**
- **Hickory**
- **Pecan**
- **Persimmon**
- **Walnut**
- **Pinenut**
- **Acorns**

Cooking wood, smoke wood, charcoal, flavor wood



- Apple
- Big leaf maple
- Cherry
- Hickory
- Mesquite
- Oak
- Sugar maple

Biomass Energy



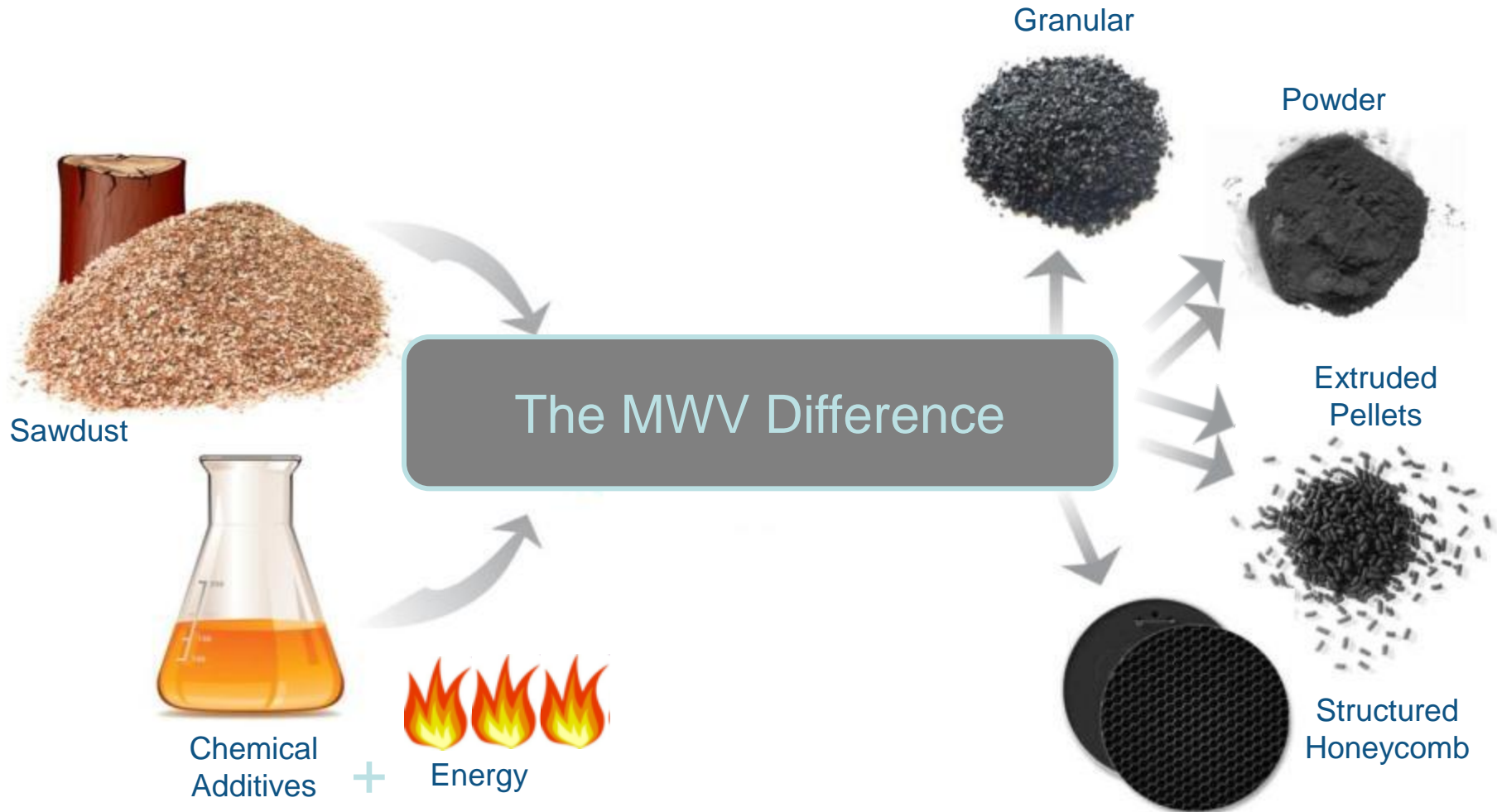
Wood Pellets



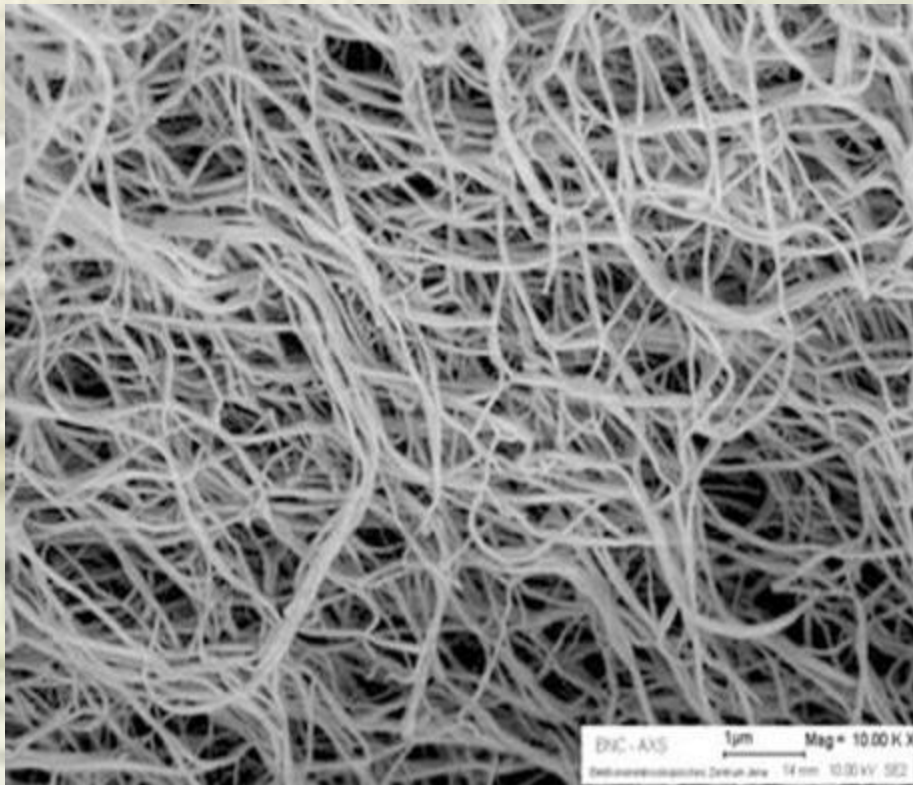
Natural Hardwood Charcoal



MWV Carbon Manufacturing Processes



Chemicals and Nano-Fibers





Technical Assistance

- **USDA Forest Service**
- **Virginia Department of Forestry**
- **Natural Resource Conservation Service**
- **Cooperative Extension Service**
- **Universities and Community Colleges**
- **Local and regional economic development organizations**
- **Small business development centers**

Resources

Forest Farming

www.extension.org/forest_farming

Specialty forest products

www.sfp.forprod.vt.edu/special_fp.htm

www.dof.virginia.gov/econ/forestprod/index.htm

www.pubs.ext.vt.edu/category/alternative-agriculture.html

Shiitake Mushrooms

www.naturalresources.umd.edu/Publications/html/shiitake.html

Natural Lump Charcoal

<http://frec.vt.edu/charcoal/>

Ginseng

<http://pubs.ext.vt.edu/354/354-312/354-312.html>

For More Information

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