

Before you Harvest. . . protect your interests.

1. Seek the advice of a trusted attorney.

It is important to seek the advice of the forestry professionals, either at state agencies or a private consulting firm who can help you plan for a harvest. Description of the services they provide is on the following page.

It is equally important for you to seek the advice of an attorney who can prepare for you a timber sale contract. Timber sale contracts are not complicated or lengthy and no fine print is necessary. A trusted local attorney can use the sample provided in this handbook on page A-62 to draft a contract which meets your specific needs. Take the Landowner's Handbook with you to show the attorney exactly which management practices are to be referenced in your contract.

2. Don't be talked out of using a contract.

Too many Kentucky landowner's have made the mistake of entering into a logging agreement on a verbal understanding and a firm handshake. The logger and the landowner are both well advised to have a clear written understanding of the terms of the logging project, including the timber harvest management practice standards to be used by the logger.

The prudent landowner will have no problem addressing both his financial and ecological concerns with the logger if a proper timber sale contract is prepared. Don't be persuaded to enter into a verbal logging agreement. Any ethical logger understands that you have a legal right to a signed written contract to avoid misunderstandings. ***If a logger is attempting to talk you out of using the timber sale contract, that is the first red flag letting you know that you may be talking with the wrong logger.***

3. Who should pay for the contract?

First, the timber sale contract is not an expensive legal

document. By reviewing the sample on page A-62, you will notice that the contract is not lengthy or complicated. Read this sample contract thoroughly before visiting your attorney. Your advance preparation will likely limit his or her time to a couple of hours. This will be a minor cost of the overall timber harvesting project. By accepting the responsibility of paying for the binding timber sale contract, you get the comfort of knowing your interests are protected. The old saying, "an ounce of prevention is worth a pound of cure" is applicable here.

The cost of a simple contract is only a fraction of the cost of property damage or a dispute over timber sales proceeds.

4. Can I just use the contract in the Handbook?

The contract in the handbook is only an example. You are encouraged to use the sample contract as a basis for discussion and consultation with an attorney of your choosing. The drafting of a binding contract should be done by an attorney whom you trust. The sample is not intended to be used by you without first consulting with your attorney.

Do you need a consulting forester?

A consulting forester is your personal representative who is working to help solve your forestry-related problems. If you answer “yes” to any of the following questions, then you want to consider employing a consulting forester:

Do you have timber you want to sell and want to get the best possible price while still protecting your property?

Do you need someone who is on your side to help you manage a timber sale?

Do you need help in contacting reputable potential timber buyers and in drawing up and monitoring a timber sale contract so that your interests and property are adequately protected?

Do you need to know how much timber you have and its value, either for a timber sale, for buying or selling land, or for tax purposes?

Has someone stolen timber from your property? Did you know you may be able to receive triple damages if the people who illegally removed your trees didn't give you prior notification of their intention to harvest trees next to your boundary?

Will you be involved in any type of legal proceedings regarding forestland?

Do you need professional forest planning assistance?

These are some of the most common reasons a landowner wishes to employ a consulting forester. A consulting forester is able to advise and assist you with any problem connected with timber or the management of your woodland.

What services does a consulting forester provide?

I. Timber Sales - A consulting forester knows timber and stays current on timber markets. He knows who buys what kinds of products in your area and knows what kind of job they do. He can get you the best price for your timber and make sure that your woods, your land, and your interests are protected. Included in this may be:

Timber Marking - By selectively marking your timber for you, a consultant helps you sell only those trees which are mature or need to be harvested at this time. This will leave your better, younger trees to grow for the future. By pre-selecting the trees to be removed and not leaving the choice to a timber buyer, you will be able to help preserve the beauty of your woods to enjoy in future generations.

Timber Cruising - If timber marking is not needed or wanted, the consultant can cruise your timber to tell you exactly how much volume and the grade of what you have to sell.

Appraisals - The consultant can tell you what your timber should be worth and then help you get the most for it when you sell it.

Sale Representation - The consultant can represent you in the actual timber sale, from beginning to end, including:

- a. Drawing up a timber sale contract to meet your specific situation
- b. Advertising the timber
- c. Contacting the appropriate buyers
- d. Showing the timber to buyers
- e. Opening bids
- f. Awarding the timber sale contract.

The consultant can also make logging inspections to see that the contract is being followed and that your woods and property are being protected.

A consulting

forester serves you in

professional ability, technical training, broad experience, honesty, integrity and in their desire to serve no one's interest but that of their client.

Materials on consulting foresters provided by the Kentucky Association of Consulting Foresters. Learn more about the services to expect from a consulting forester at <http://www.acf-foresters.com/> or locate a consulting forester in your area at <http://www.kacf.org/> or in the Contact section of the Appendix.

2. Forest Management Planning - A consultant can meet with you and help you plan the future of your forestland. A properly managed forest not only provides timber benefits, but also natural beauty, wildlife, recreation and high quality water. After determining your personal goals and objectives, the consultant can walk over your property with you and help you prepare a professional plan to help meet your woodland goals for the future.

3. Trespass Investigations - Did you know that under a recent Kentucky law (KRS 364-130), if someone crosses your property line and cuts timber on your property without your permission that you are entitled to receive triple damages in court? This law applies if the logger or adjacent landowner did not notify you in advance of their intention to harvest. A consultant can estimate the volume and value of any timber illegally cut or removed from your property and then help you recover damages.

4. Expert Witness Testimony - In cases of timber trespass, theft, or other legal issues related to forestland, a consultant can provide expert witness testimony in court on your behalf.

5. Other Services - Consultants may also provide other services such as vendor services for tree planting, site preparation, or timber stand improvement. Consultants may also provide or assist in environmental impact studies, ecological assessments and a great variety of other things which may in some way be related to forestland.

What are consulting forester fees?

Consultant-handled timber sales and related work are usually done for a percentage of the sale price of the timber. Because of the consultant's knowledge and experience in timber and his knowledge of the local buyers and markets, the consultant will nearly always make a landowner more than the cost of his fee as compared to a landowner handling a sale on his or her own.

Not only does the consultant get the landowner more

money, the consultant's knowledge of logging practices, contracts, and sale procedures will assure the landowners' interests are protected with professional care. When a forest is mistreated or cut improperly, it may take a generation or more to recover. In all fee arrangements, the services of a KACF Consulting Forester offer clear advantages of economy without conflict of interest.

Consultant fees for activities other than timber sales depend on the type of job, travel distance and the amount of time required.

The Kentucky Division of Forestry

The Mission Statement of the division reads, "To protect and enhance the forest resources of the Commonwealth through a public informed of the environmental and economic importance of these resources."

To achieve this mission, the division operates eleven distinct programs:

Forest Stewardship Program,
Forest Fire Prevention and Control,
Reforestation and Nurseries,
Urban and Community Forestry Program,
Forest Health Program,
State Forest Administration,
Forest Inventory and Analysis,
Forest Resource Education Program,
Timber Harvest Compliance,
The Kentucky Forest Conservation Act, and the
Kentucky Master Logger Program.

Many of these programs are extremely important to all Kentucky forestland owners, particularly the Forest Stewardship Program. **The Division of Forestry provides this, and many other services, free of charge.**

Landowners with 10 or more acres of forestland are eligible to participate in the Forest Stewardship Program.



Financial assistance cost-share programs to help landowners with land management and conservation practices are available for a variety of activities including: reforestation, timber stand improvement, soil and water protection, riparian area protection, wildlife habitat improvement and tree planting. To learn more about the various programs and eligibility contact the Division of Forestry at (502) 564-4496 or www.forestry.ky.gov/stewardship_web_cost_share.asp

However, planning and technical assistance is not denied to landowners with fewer than 10 acres of forestland.

The landowner is asked to choose primary and secondary management objectives from four options on the application. Depending on the choices and their ranking, the forester visits the property and may be accompanied by a wildlife biologist and/or a representative from the local conservation district.

An assessment is made of the forest resources on the property and coupled with the landowner objectives to create a Forest Stewardship Plan specific to that landowner and that property.

Follow-up technical assistance is available to help the landowner implement the recommendations in the Plan and cost-share financial assistance may be available to help cover the costs of implementation.

Some state agency policy limitations exist, such as a maximum of three field days to make the initial exam/assessment, 50 acres per landowner per year for timber marking, no timber appraisals, no direct involvement in private timber sales, and broad scale prohibitions against any activities that might lead to litigation.

There are nine district offices across the Commonwealth and 40 professional foresters whose primary duties include technical and cost-share assistance to private forestland owners in the state through the Forest Stewardship Program.

What are my other alternatives?

Some private forest products companies or sawmills also employ professional foresters who may provide forest management services to private landowners. At no time can a forester working for a private company be reasonably expected to provide a service which would compromise his company's interests, though. If someone shows up at your home, unsolicited, it is likely they are representing someone else's interests.

Non-Timber Forest Products

By Deborah Hill, University of Kentucky Extension

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Nontimber forest products involve an existing forest or woodland, and intentionally cropping something other than trees. The practice may or may not involve cultivation—the intention is to manage the forest for nontimber crops. This kind of cropping can be done in any kind of forest and has been traditional in many parts of the world. With careful planning, forest farming can be done in conjunction with other agroforestry practices.

Forest farmed products include mushrooms, botanicals of medicinal or culinary value, fruits and nuts, craft materials, maple and other syrups, and baled pine straw. Other, more traditional wood products such as fenceposts and fuelwood are also possibilities, while the raising of honeybees (apiculture) is yet another option.

Exotic Mushrooms

Wild mushrooms that can be found in temperate woods include morels, chanterelles, boletes and honey mushrooms along with several other edible species. Most of these are only seasonally available, and one must be VERY sure that the mushrooms in question are the edible ones—not look-alikes that may be poisonous!

Other high quality mushrooms that can be forest-farmed include culinary mushrooms like shiitake, maitake or Hen-of-the-woods, oyster mushrooms and a primarily medicinal mushroom, reishi. The majority of these mushrooms grow in wood fiber and can be inoculated into small diameter (3-5 inch) logs.

Production of these mushrooms can return enough economic benefit to justify thinning and culling forest stands to upgrade the quality and improve the health of the remaining trees. Because small logs are preferred for mushroom production, large branches can be used as well as small diameter trees.

Shiitake and oyster mushrooms are probably the most familiar of the exotic mushrooms. These, along with Lion's mane, reishi, and maitake can be inoculated into drilled holes in logs harvested during the dormant season (November-February in the central U.S.A.). The objective is to inject the active mycelium or “root” of these fungi into the wood that they will ultimately consume at a time when it contains the maximum amount of sugars. This season begins when the tree is shutting down for the winter—having shed its leaves—and runs through the time it gears up again in the spring, preparing for the new year's growth.

Trees used for this purpose must be alive at the time of cutting. Even though the fungi feed on dead wood, it is important to get the desirable mycelium into the wood before some other bacterium or fungus begins the decay process. Log lengths vary, but most people cut lengths they find easy to handle. All my experimental work has been done with logs 39 inches long, but other people have worked with logs both longer and shorter. Cutting logs shorter than 24 inches could create problems with the mushroom spawn drying out.

Once the logs have been inoculated and sealed, they need to be placed in a relatively cool, moist environment for the fungi to grow (run) through the entire log. Ideally this would be a wooded site with some mixture of conifers (so that there is some shade year round), and near a water source. Monitoring the moisture content of the logs is important; supplemental watering may be necessary in hot, dry weather. Production usually begins 6 to 18 months after inoculation and continues seasonally with the right combination of moisture and temperature. The logs usually

Farming the forest provides many options for annual (maple syrup, crafts, some botanicals, mushrooms) and longer-term (fuelwood, fenceposts, ginseng) commodities, along with the possibility of timber crops. Production of these commodities may involve altering the forest canopy (shade for mushrooms and botanicals, crown spread for apiculture and maple syrup) or making changes in the forest floor (sowing medicinals such as ginseng and goldenseal, inoculating for morels or stropharia). Many of these options could also be implemented in the tree rows of alley crop plantations, as well as in the selection of species for windbreaks and riparian buffer strips. One or more of these options can provide annual cash flow and can be managed by various member of a family. Implementing several of them will bring greater biodiversity to the existing forest, thereby enhance its health, while supplementing annual income from the land.

produce about 10% of their original weight in mushrooms over their productive life. Shiitake logs can be sterilized and reinoculated with oyster mushrooms when the shiitake production declines.

Markets are available and increasing in many parts of the country. If you expect to sell mushrooms, however, it is important to locate your own markets before inoculating any logs. The fungi that do not grow on logs—stropharia and morels—grow on the forest floor. Stropharia can be “seeded” into wood chip beds in the forest and watered like a garden until they begin to produce mushrooms. Even though these mushrooms can grow to remarkable sizes (big enough for a child to sit on!), they are marketed when relatively small—roughly the size of large commercial button mushrooms.

Morels are a little trickier to grow—their life cycle is known, but it is still difficult to produce them at will. Kits are available, and at least two companies are producing morels commercially under controlled indoor conditions. They too require a prepared bed on the forest floor and need to be kept moist until they produce. Under outside conditions they will only produce in season, which is late spring to early summer.

Botanicals and Medicinals

Every culture has used botanicals to remedy various ills. Echinacea (purple coneflower) and St. John’s wort are now commercially available. Less common, but highly regarded forest-based herbs include goldenseal, black cohosh, bloodroot, and blue cohosh. Tree barks from witch hazel, slippery elm and sassafras also boast healing properties.

Probably the best known and certainly most valuable botanical is American ginseng. Ginseng grown under forest conditions, so-called woods-grown, woods-cultivated, or wild-simulated, has maintained a stable price of close to \$300 per pound for some time. Most of the herbaceous and shrubby botanicals are marketable for pennies to dollars per pound, and there are several national herb

companies that will buy dried material from producers. Several of these herbs can be encouraged to grow in larger patches than occur naturally, by techniques that disturb the forest soil very little. Both herbaceous medicinals and exotic mushrooms prefer a forest canopy—usually with fairly dense (75-85%) shade, so minimal alteration of the overstory is needed. As with most plant cultivation, the problems are competition for water and nutrients, so some weeding may be necessary.

Most of these herbaceous plants, especially those with marketable leaves, seeds, and fruits, bear annually. Harvesting roots may take longer. Goldenseal, from which both root and leaves are marketable (and seed for that matter), takes two or three years to develop a large enough root mass to market. Ginseng commands a high market price because it takes five to ten years to develop the kind of root that brings top dollar.

The greatest challenge in growing ginseng to fruition is keeping it until it’s big enough to sell. In the central U.S.—and the Appalachian and Ozark Mountains in particular—theft of nearly-grown ginseng is widespread. Ginseng is considered by the federal government to be a threatened plant, and its harvesting is restricted to certain months of the year and to certain ages of root, but there is considerable disregard for those laws.

Trees and shrubs from which roots (sassafras) and bark (witch hazel, slippery elm) are taken for their medicinal use, require a different kind of management. Witch hazel is best managed by cutting the stems fairly close to the ground, then stripping the bark off. Cutting the stems encourages re-sprouting while taking the bark off the standing stems would probably kill the whole plant. Slippery elm, which can grow into a large tree, can either be managed—like the witch hazel—by coppice when young, or could bear some vertical strips of bark being removed from a mature tree, as long as most of the bark is left around the trunk to keep its circulation functioning. Some of the roots of sassafras may be removed without killing the whole tree; alternately, only the smaller shoots may be harvested, roots and all.



photo: Sara Thilman

Popular mushroom varieties, like these shiitakes, fetch prices ten times higher than their lowly common cousin the button mushroom. Try some of the exotic or gourmet versions and you may understand why people are willing to pay so much more for these organic treats. When in season people will spend days “hunting” the somewhat elusive morel mushroom. Its heavenly flavor is likened to filet mignon!

Fruits and Nuts

Native fruits and nuts are other options for forest farming, and can include such species as persimmon, pawpaw, hazelnuts, pine nuts, and walnuts. Unfortunately, one of the greatest nut trees of all time, the American chestnut, no longer grows big enough to produce nuts. It occupied some 20% of the eastern deciduous forest and was effectively wiped out by a disease, the Chestnut blight in the 1920s.

As with apiculture and maple syrup production, farming of fruiting species requires adjustment of the forest canopy (more water, nutrients, sunlight) to allow for better growth of the crop trees. This usually means removing the surrounding trees whose crowns touch the crowns of the crop trees (you can then use some of the harvested wood for mushroom production, fenceposts, or firewood for boiling maple syrup!).

Crafts Materials

Working crafts materials as part of forest farming ranges from collecting pine cones and gilding them for decorations, or waxing them for fire starters, to selecting odd-shaped branches or burls on trees for carving. There are many plant species at all levels, from herbs to shrubs to vines to canopy trees, that may produce something harvestable for crafts. Grape vines are collected for fashioning into decorative wreaths, while small diameter 10 inches white oak saplings are the ideal size for making splints for white oak baskets. People have even made (beautiful) baskets from kudzu vines, so opportunities live greatly in the eyes of the beholder. One enterprising company injected dyes into very young pine saplings 2 inch diameter and then cuts the stems and branches into disks that were made into jewelry—the color already in them.

Maple syrup and other tree saps

Maple Syrup, and syrup or “beers” made from other tree saps, have been produced for centuries in North America. Native Americans figured out how to get this sweet material long before Europeans came to this continent. A “sugar bush” is simply a forest where the owner has selected for maple trees, specifically sugar maple. Maple

syrup can be made from the sap of any maple tree species but the sugar content of sugar maple sap is higher than that of the other maples, and it therefore takes fewer gallons of sap to make a gallon of syrup (with sugar maple the ratio is about 40 to 1, so it’s a lot more work to get the syrup from the others).

Management of the sugar bush requires spacing the trees far enough apart that they form large crowns (when the trees are all crowded together in a normal forested situation, the crown of any individual tree is not particularly large). Large crowns mean a lot of leaves, and a lot of leaves means high syrup production.

The expense of maple syrup production lies in the fairly substantial capital investment required for the tapping (buckets or plastic tubing), boiling, and bottling equipment and materials. People who do this every year build a “sugar shack”—a building that houses the boiling pans, with lots of roof ventilation for the steam to escape, and a long, deep fire pit for heating the sap. Scrap wood from other forest management operations can be used to fuel the sugaring process. Labor is intensive during the production process, but the season of work is short, lasting usually four- to six-weeks in the spring—when days are beginning to warm but nights are still cool, and before buds break. The result is a very high value-added product.

Fenceposts

The most desirable tree species for fenceposts in the eastern United States are black locust and Eastern redcedar. These species are desirable because of their natural resistance to decay—locust posts may last for decades without chemical treatment, whereas other species, even with treatment, may not last as long. Management consists of favoring the growth of these species over others and providing access to maximum water, light, and nutrients in the system where they are growing. Fenceposts are also an option as an intermediate product in the crop tree rows of an alley cropping system. Black locust, for example, can grow large enough to be harvested for fenceposts in 12-15 years, while black walnut

may take three times longer than that to reach a size that would be considered marketable.

Fuelwood

Fuelwood, or firewood, is more of a byproduct of other management for forest farming than perhaps a specific activity, unless the forest is managed to encourage the growth of trees that are known to be excellent fuelwood, such as black locust or some of the less commercially desirable oaks, like post oak or blackjack oak. Exhausted mushroom logs can be used for firewood also, although they maybe punky enough that they are better ground up and used for mulch.

Apiculture

If agroforestry is “the intentional integration of agronomic crops with tree crops or livestock with tree crops,” then with apiculture in forest farming, the “livestock” are very tiny! It has been estimated that one in every three bites of food we eat is dependent on active pollination of plants. The insect world, specifically bees and wasps, are the major operators in this case.

The European honeybee is the best-known of these insects, although it is not a native species. It has a couple of characteristics which make it particularly valuable. One is that honeybees show species fidelity, which means that they will use the same source of nectar to make honey until the source is exhausted. This enables them to make “specialty” honeys from crops such as buckwheat, tupelo, and sourwood. Another is that they collect pollen, along with nectar, and use both to raise their young, but also collect it in sufficient volume that it can be harvested without compromising the health of the hive.

Managing honeybees is not difficult, and getting setup with bees and hives is neither particularly expensive nor complicated. Extracting honey from the combs is an expensive proposition (extractors are costly), but it is possible to get good equipment second-hand.

Forests can be managed to favor trees that honeybees particularly like, such as basswood and black gum, providing extra light, water, and nutrients for those trees, as well as exposing the crowns to maximize surface area for flower production.

Average production for a hive is 50 lbs. of honey per year. It is also possible for a hive to produce 50 lbs. of pollen in a year. Products from the hive include: royal jelly (the super-rich food fed in tiny amounts to all honeybee larvae, but the exclusive diet of the queens) popular in both the health food and cosmetic markets; propolis, another product used in food supplements; and beeswax, used for candle-making and other crafts. Pollination itself is another saleable service, as hives can be transported from place to place to pollinate crops. Some alternative health practitioners use honeybees for their venom, which anecdotally is said to be extremely helpful to people suffering pain from rheumatoid arthritis or other joint problems.



photo: photos.com

This honeybee and spider are both part of nature's wildly intricate web of life. Both are intent on a midday snack, but the likelihood is that only one will have its appetite satisfied.

Estimates show that one in every three bites of food we eat depends on active pollination!