

**Forest Service Handbook
National Headquarters - Washington Office
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**Forest Service Handbook 2409.12b – Timber and Forest Products Trespass/Theft Procedures
Handbook
Chapter 30 - Valuation**

Amendment: 2409.12b-2012-1

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Duration: This amendment is effective until superseded or removed.

Approved by: James M. Pena, Associate Deputy Chief, NFS

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Responsible Staff:

Last Change: None

Superseded Document(s):

Digest: Following is an explanation of the changes throughout the directive by section.

2409.12b: Establishes new handbook “FSH 2409.12b, Timber and Forest Products Trespass/Theft Procedures Handbook.”

Zero Code: Establishes handbook and sets forth direction on procedures for preventing and investigating trespass and theft of forest products. In addition to consolidating information scattered throughout several different manuals and handbooks, it clarifies existing direction and provides new direction for the prevention of or the investigation of trespass and/or theft of forest products.

10: Establishes chapter 10 and sets forth direction on procedures to address the prevention, discovery, legal concerns, and reporting for timber and forest products trespass and theft.

20: Establishes chapter 20 and sets forth direction on procedures to conduct timber measurements for timber and forest products trespass and theft.

30: Establishes chapter 30 and sets forth direction on procedures for valuation and appraisal method(s) for timber and forest products trespass and theft.

40: Establishes chapter 40 to set forth procedures for the sale and disposal of seized material from timber and forest products trespass and theft.

Chapter 30 - Valuation

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30 - Valuation of Theft and Trespass Material

Base the valuation of material upon market value, local or export markets, or resource value, such as, the shade and/or aesthetic value of a tree in a campground. Confirm the basis of valuation prior to initiating the appraisal. Law Enforcement personnel and Attorneys assigned to the case may provide direction in the determination of the value of material removed.

Determine the value of material involved based upon the highest and best use. Softwood trees or logs of commercial size may have sawtimber as the highest and best use. Commercial size sawtimber trees or logs meeting house log specifications have a significantly higher value in an area with a house log market. Hardwoods may have flooring, molding, furniture, or other specialty products such as music wood as a highest and best use. Trees or logs discovered in firewood lengths are likely to have a highest and best use other than firewood, unless the material is sub-merchantable or cull.

Knowledge of local markets, of products sold in the markets, buying locations for products, and raw material specifications for product manufacturing is essential in determining highest and best use.

After determining highest and best use, complete an appraisal of the material. Determine the fair market value of the material. The fair market value is the price at which a willing buyer and a willing seller, neither being under any compulsion to buy or to sell and both having reasonable knowledge of relevant facts, would purchase the included material.

The appraisal should use those costs and values in effect at the time of the theft or trespass. Add Timber Property to the appraisal (FSH 2409.18, sec. 47.2). Timber property sales involve recovery of value in excess of stumpage value or standing tree value. Timber property values are the cost of manufacture from the standing tree to the state of manufacture where the material is discovered. This includes the constructed value of felling and bucking, skidding, decking, slash treatment, erosion prevention, and a proportionate share of overhead and depreciation.

In cases where the timber is found at a mill, add costs for transportation and unloading as Timber Property (FSH 2409.18, sec. 47.3). Whether willful or unintentional, missed manufacturing logs are not a factor in completing the appraisal.

Determine the valuation of material as appraised independently, without influence of line or staff officers to increase or decrease values. The decision to assess single, double, or treble damages will be made by Law Enforcement personnel and Attorneys pursuing the case after the basic value is determined.

30.1 - Value on the Stump

Determine the value of trees as if they were standing timber, unless the attorneys request a different basis of valuation. If the trees are lying on the ground by the stumps, add timber

property value for falling and bucking to determine standing value. If discovered in a log deck at a processing facility, add the additional timber property value for stump to truck and haul costs to determine standing value. Add the cost of any slash disposal, erosion control work, or road maintenance as a result of the theft or trespass, if needed, to determine final value.

30.2 - Appraisal Methods

For every appraisal, include the following items in the permanent file:

1. Basis of value (market or resource value).
2. Process or method used in determining value.
3. Date or estimated time period of the theft or trespass.
4. Name, date, and version of data file(s) used in calculating value.
5. Title and version of spreadsheets, and other computer programs used in calculating costs.
6. Name of appraiser and date of appraisal.

The file should contain the original cruise cards, outputs including cruise, spreadsheets, other computer programs outputs, and other pertinent information. This will be in addition to the file kept by Law Enforcement personnel.

30.3 - Comparable Sales

Comparison to commercial non-Forest Service transactions when available is one of the best ways to establish stumpage rates at fair market value for material. Use transactions that have supporting documentation identifying sale characteristics, names of buyers and sellers, and contact numbers for comparable sales. Evaluate species composition, accessibility, logging difficulty, timber quality, and other factors of comparable transactions. Use several similar transactions to avoid allegations a single transaction is not representative of fair market value. If comparable sales do not exist at the time of the theft or trespass make adjustments to appraisal elements. Published index values are often useful for this purpose.

Avoid the following when using comparables sales:

1. Comparing sales with road construction with sales having no road construction.
2. In general, including both small sales and large sales.
3. Using direct sales as comparables.
4. Including negotiated sales as comparable sales.

5. No bid sales bought off the shelf.
6. Using only one comparable sale.

30.4 - Delivered Log Prices or Pond Values

Delivered log prices or pond values may be used to determine fair market value when comparable sales are not available. These terms are used interchangeably and are defined as the price paid for material delivered to a processing facility or log yard. Prices can be camp-run, meaning one price is paid for the material regardless of the size, length, or quality, or graduated prices based upon species, size, length, grade, and so forth.

Use prices from the time period of the theft or trespass. Survey at least two (2) mills to obtain prices for the type of material involved in the theft or trespass. Prices obtained from surveyed mills are to be for similar species, size, grades, etc. to facilitate an equal comparison. Dissimilar prices among more than two sources should not be used for valuing purposes.

When using delivered log prices, subtract the timber property value attributed to stump-to-truck, loading and hauling costs to derive the value of the standing timber. Also, consider export prices east of the 100th meridian for theft or trespass material if export markets are available and the theft or material meets or can be partially processed to meet export market specifications. Do not use delivered log prices from only one mill or processing facility to establish fair market value.

30.5 - Forest Service Standard Appraisal Methods

Where there are no comparable sales, only one mill or processing facility, and no export markets, use Forest Service standard appraisal methods to establish fair market value. Fixed costs may need special treatment to avoid cost and value distortion. For example, limit the estimated unit cost of roads to the lowest cost of one of the following:

1. The estimated road investment by theft or trespasser divided by the volume cut.
2. The average road amortization rate for typical sales in the area.
3. The estimated cost of the transportation system for a logical sale area including the theft or trespass area and other tributary timber divided by the estimated tributary volume.

Add timber property value, as appropriate, to determine standing timber value. In transaction evidence appraisals, enter “0” for the competition or rollback factor. The value should reflect transaction evidence of bids received in the general area.

30.6 - Determining Resource Value of Theft and Trespass Material

The highest and best use of material may be its resource value as a standing tree. Attorneys and Law Enforcement personnel pursuing the case may ask for an ecological, aesthetic, or other value determination. Use the following methods in determining resource values:

1. One forest management activity having a standard procedure to determine value is the growing of a tree. Silviculturists simulate the growth of a tree or a stand of trees and assign costs for site preparation, planting, and intermediate treatments to redevelop the stand structure as close as possible to its original structure. Calculate the costs on a per acre or single tree basis to grow trees to a specific size class or age. Apply this cost factor as the resource value of a single standing tree or stand of trees. For example, if the timber theft activities have changed the long term management objective of the stand, the silviculturist "re-grows" the stand to achieve the original objective.
2. If individual tree species have been recognized in a management plan for their importance in the biological diversity of an area, those trees are "re-grown". However, this method of valuation does not account for the tree's lost contribution to the forest ecosystem. Another value that can be applied is the replacement value. This value would include the costs of buying a replacement tree from a nursery, transporting the tree to the designated location and planting it there.
3. For those resources which are difficult to assign a monetary value such as wildlife, recreation, or aesthetics, utilize a live value or value of the standing tree on the site. A nationally accepted method of deriving a live tree value is established by the Council of Tree and Landscape Appraisers.

The manual, "Guide for Plant Appraisal" (8th Edition, 1992) is used by licensed plant appraisers for appraising live tree values. This manual takes several factors into consideration when appraising a tree such as size, species, condition and location. Size is determined by measurement. Location and condition factors are subjective and are expressed as a percentage determined by the appraiser relative to what would be considered a "high quality" specimen. Location looks at the site of a property or landscape, a tree's unique functional and aesthetic contributions, and the placement of the individual tree in a specific landscape. For application of the location concept in a forest setting, factors may include whether the trees are in a view shed along a major road, in a high recreation use area like a campground or trailhead, trees in a designated wilderness area that would have never been harvested, trees in a deer fawning area, and so forth.

This method may be applied to several resource values, such as:

- a. Silvicultural values which may include genetically superior seed trees, or rare stand for species, age, and location.
- b. Wildlife values based on individual trees and/or stands in terms of wildlife habitat.

- c. Visual resources which consider the Visual Quality Objectives for the site.
- d. Recreational values associated with different uses such as wilderness experience, trails, and developed campgrounds.
- e. Ecological values including the contribution of individual trees and/or stands to the ecosystem as a whole.

None of these valuation methods of live trees reflect the full loss of resource value. The visual quality method does not account for values the trees would have contributed over time. It does not account for the limitations of options for future staged harvesting of adjacent landscapes. In an old growth stand, although the silviculturist establishes the stand to its original size class, certain characteristics such as a degree of decadence in the overstory layer cannot be emulated.

Replacement habitat for wildlife species may not have the quality of the original stand even though the vegetative structure will be very similar. The wildlife value of a nest tree for an endangered species will have a much higher value than the lumber made from it. A wildlife value may be determined using methods other than the general tree resource value. For example, if oak trees are involved, a value may be determined based on an oak mast value supporting the deer herd, and gray squirrel. Hunters use days and value set per species by the State Fish and Game may also be used.

Additional information related to valuing material can be obtained from the San Dimas Technical Development Center, Forest Management Timber Theft web site.