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Manual for the Appraisal of Timberland

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Introduction

In 1978, voters approved a constitutional amendment, Article VIII, Section 1-d-1, permitting appraisal based on the productive capacity or "productivity value" of timberland. The constitutional amendment often referred to as "Section 1-d-1" took effect in 1979[1]. That same year, the Texas Legislature codified the Property Tax Code.[2] Tax Code Chapter 23, Appraisal Methods and Procedures, includes Subchapter E regarding the appraisal of timberland.[3] Subchapter E implements Section 1-d-1 to permit qualified timberland to be appraised based on its productivity value.

Twenty years later, the Texas Legislature added Tax Code Chapter 23, Subchapter H, Appraisal of Restricted-Use Timberland.[4] Owners of timberland in restricted zones and owners who harvest and reforest the land by seedling plantings or managed natural regeneration may qualify for this special use appraisal.[5] Subchapter H generally provides that the appraised value of qualified restricted-use timberland is one-half of the appraised value of the land as determined under Tax Code Chapter 23, Subchapter E.[6]

The Tax Code assigns most timberland appraisal responsibilities to the chief appraiser, however, the Comptroller's office is required to develop:

- a manual for appraising qualified timberland, with counsel of the Texas A&M Forest Service;[7]
- procedures for verifying that land qualifies for timber use appraisal[8]; and
- application forms for distribution to appraisal districts.[9]

This manual is adopted by rule and made available on the Comptroller's website.[10] Appraisal districts must use this manual in appraising timberland.[11] Examples and figures are illustrative and not mandatory.

In this manual, timber refers to standing trees that are grown to produce commercial wood products, such as sawtimber, pulpwood, poles and chips. Timberland refers to forestland that can produce commercial wood crops.

1 Tex. H.J.R. 1, 65th 2nd Called Sess. (1978)
2 Tex. S.B. 621, 66th Sess. (1979)
3 Tex. Tax Code §§23.71 through 23.79
4 Tex. Tax Code §§23.9801 through 23.9808
5 Tex. Tax Code §23.9802
6 Tex. Tax Code §23.9803(a) and Tex. SB 977, 76th Sess. (1999)
7 Tex. Tax Code §23.73(b)
8 Tex. Tax Code §23.73(b)
9 Tex. Tax Code §§23.75(b)(1) and 23.9804(b)(1)
10 Tex. Tax Code §23.73(b) and Tex. Admin. Code §9.4011
11 Tex. Tax Code §23.73(b)

Qualifying Timberland for Productivity Appraisal

Timberland in Texas varies in many ways. A pine plantation may have trees just over a year old, while another pine plantation may have much older and taller trees. Hardwoods may be the only timber on one tract, while other tracts may have pine trees or a mixture of hardwoods and pine. In addition, soil productivity—a key determinant of timber growth—often varies dramatically from one timber tract to another, even within the same county.

The degree of intensity with which timber producers manage the land also differs. Some owners practice custodial care, which means the owner does nothing to manage the land, while other owners manage their land intensively. Timber plantations are usually managed intensively, but some may require little management for a few years, then need sophisticated, intensive management for several years. For example, a timber plantation that is between thinning activities and prescribed burning may need little management, but final harvest and preparation for replanting require intensive management.

These variations among timber tracts and timber growing operations make determining eligibility for timber productivity appraisal a challenge for a chief appraiser. The chief appraiser must be familiar with timber activities in the immediate area and the forest region where the appraisal district is located.

The chief appraiser must appoint, with the advice and consent of the appraisal district's board of directors, an agricultural appraisal advisory board consisting of three or more members.[12] The advisory board members must own land in the appraisal district that qualifies for productivity appraisal under Tax Code Chapter 23, Subchapters C, D, E or H, and must have been residents of the appraisal district for at least five years.[13] The board's function is to advise the chief appraiser on the valuation and use of land qualified for productivity appraisal, including agricultural land and timberland.[14] The Tax Code requires the advisory board to meet at the call of the chief appraiser at least once a year. Board members are not entitled to compensation.[15]

The agricultural appraisal advisory board can be a valuable source of information about timber activity and timberland use in the area, especially if its members are knowledgeable about timber characteristics and timber management activities within the region. However, the board's advice on the appraisal of timberland does not take precedence over the law's requirements on data sources or the appraisal methodology set out later in this manual.

Eligibility Requirements

The Texas Constitution permits timber productivity appraisal only if the property and its owner meet specific requirements defining timber use.[16] Land does not qualify simply because it has timber standing on it or if it is used principally for aesthetic or recreational purposes.

Tax Code Section 23.72(a) sets the standards for determining whether land qualifies:

> "Land qualifies for appraisal . . . if it is currently and actively devoted principally to production of timber or forest products to the degree of intensity generally accepted in the area with intent to produce income and has been devoted principally to production of timber or forest products or to agricultural use that would qualify the land for appraisal . . . for five of the preceding seven years."

[12] Tex. Tax Code §6.12(a)

[13] Tex. Tax Code §6.12(b)

[14] Tex. Tax Code §6.12(g)

[15] Tex. Tax Code §6.12(f)

[16] Tex. Const. art VIII, §1-d-1(a) and Tex. Tax Code Chapter 23, Subchapters E and H

To qualify land for timber productivity appraisal, a property owner must show the chief appraiser that the land meets this standard. The property owner must timely submit an application for timber appraisal that includes all information necessary for the chief appraiser to determine if the land qualifies.[17] The owner also must notify the chief appraiser if the land's eligibility for productivity appraisal ends.[18]

The land must meet the six eligibility requirements in Exhibit 1 to qualify for timber productivity appraisal.[19]

EXHIBIT 1

Six Timberland Eligibility Requirements

1.	Applied to land and all appurtenances *(not improvements)*
2.	Current and active devotion to timber use
3.	Timber production must be primary[20] use
4.	Passed degree of intensity test
5.	Intent to produce income
6.	Passed historical use requirement

1. Applies to the Land and Appurtenances

Timber appraisal applies only to land and its potential for growing timber and appurtenances.[21] It does not apply to improvements on land, minerals or personal property.[22]

Improvements — Buildings and structures such as barns, sheds, silos or other outbuildings must be appraised separately at market value.[23] Land beneath outbuildings and other agricultural improvements related to timber use qualify for the special appraisal because the owner uses it in connection with the timber producing operation.[24]

Minerals — The appraisal of minerals (including oil, gas or any hard mineral) or subsurface rights to minerals is not included in the special appraisal of timberland and must be appraised separately at market value.[25]

Standing and Harvested Timber — Standing or harvested timber is exempt from property tax if, on Jan. 1 of a tax year, it is:

- located on the real property where it was produced; and
- owned by the person who owned the timber when it was standing.[26]

Implements of Husbandry — Machinery and equipment that are used in the production of farm or ranch products or of timber are implements of husbandry and are exempt.[27] An Attorney General opinion concluded that items that are neither fixtures nor improvements to real property, such as tractors, cultivators and trailers, could qualify as implements of husbandry depending upon the fact situation in each case.[28]

Appurtenances — Generally, appurtenances are man-made alterations of, or additions to, timberland that are included in the value of the land and are not separately appraised. For purposes of special appraisal of timberland, appurtenances are private roads, dams, reservoirs, water wells, canals, ditches, terraces and other similar reshapings of the soil (such as stock tanks); fences; riparian water rights; and decorative trees, windbreaks, fruit trees or nut trees.[29] Although a water well is an appurtenance, pumps, windmills and other fixed attachments are valued separately at market value.

Riparian Water Rights — The landowner's right to use natural bodies of water adjoining the land are appurtenances and included in the special appraisal of the land.[30]

2. Current and Active Devotion to Timber Use

Land must be currently and actively devoted to production of timber or forest products to qualify for timber productivity appraisal.[31] Unlike other types of property, timberland may not have visible physical characteristics of qualification on Jan. 1, but may still qualify. If timber use is not evident on Jan. 1, the chief appraiser should investigate whether the owner can show other indications or evidence that the land is devoted to active timber production for the applicable calendar year.

[17] Tex. Tax Code §23.75(a) and (b)

[18] Tex. Tax Code §23.75 (h)

[19] Tex. Tax Code §§23.72, 23.73, and 23.75

[20] Principal or principally is defined in the online Merriam-Webster's dictionary and thesaurus as "most important, consequential or influential" and the term primary is one of several synonyms.

[21] Tex. Tax Code §23.72(a)

[22] Tex. Tax Code §§23.72(a) and 23.73(d)

[23] Tex. Tax Code §23.01

[24] Tex. Tax Code §23.51(1)

[25] Tex. Tax Code §23.73(d)

[26] Tex. Tax Code §11.16(c)(1) and (2)

[27] Tex. Tax Code §11.161

[28] Tex. Op. Att'y Gen. MW-451 (1982)

[29] Tex. Tax Code §23.51(1)

[30] Tex. Tax Code §23.51(1)

[31] Tex. Tax Code §§23.72(a)

Consider the following examples of when determining if the owner is currently and actively devoting land to timber production might prove difficult.

- The chief appraiser may not be able to see signs of activity when a timber operation is young, even though the owner may have spent a great deal of time, money and effort to start the operation and is currently and actively devoting the land to timber use.
- A chief appraiser may not be able to see any management activity at the time of inspection if the owner has not harvested for some time.
- The chief appraiser may not be able to find evidence of active devotion if the size of the tract means that management activities take place away from the roads that give the chief appraiser access to the land.

Indications of Current and Active Devotion

The absence of visible physical timber activities on the land does not mean that the land is not currently and actively devoted to timber production. The chief appraiser should look for other indications of current and active devotion. The following are examples of some indications of current, active devotion.

- **Timber activity records.** Is the owner able to produce records showing timber management activity? Some records that indicate timber management activity are documents showing timber has been harvested, canceled checks for services, contracts of sale and land leases.
- **Forest management plan.** The owner operates under a current, written forest management plan. A forest management plan must be in writing, developed for the present time and signed by the preparer. An outdated plan is not acceptable as a management document. The owner should be able to show that he or she is using or intends to use the plan for timber production.

  Knowledgeable timberland owners may prepare their own plans. If the owner of a marginal tract cannot afford a privately developed forest management plan, is on a waiting list to have a plan developed by a public agency or lacks the expertise to develop a plan, the chief appraiser should look for other evidence of current and active devotion.
- **Timber cost-sharing programs.** The owner receives Texas Reforestation Foundation (TRe), Environmental Quality Incentive Program (EQIP) and/or Conservation Reserve Program (CRP) cost sharing funds for reforestation and timber stand improvement. The Texas A&M Forest Service coordinates the federal EQIP and CRP programs. TRe is a privately funded cost-sharing program administered jointly by the Texas A&M Forest Service and the Texas Forestry Association.
- **Efforts to sell timber.** The owner has letters or other documents showing efforts to sell the timber.
- **Salvage activity.** The owner has documentation showing an attempt to salvage damaged or dead timber that continues to have value.
- **Certified tree farm.** A certified tree farm is privately owned, protected and managed timberland. Timberland must meet standards adopted by the American Forest Foundation for certification. Standards include management for sustainable forests and timely reforestation with desirable species. A certified tree farm is inspected by professional foresters before it may qualify for the program and is periodically reinspected. Most certified tree farms are easily recognized by the green diamond-shaped "TREE FARM" marker placed in front of the property.
- **Memberships in associations.** The owner is a member of one of the following:
  - the Texas Forestry Association;
  - a county or local timber growers association; or
  - a county or local timberland owners association.
- **Assistance programs.** Does the owner participate in a forest industry landowner assistance program? Many firms in the forest products and the pulp and paper industry have entered into agreements with private timberland owners to manage their timber in exchange for first chance to buy the timber when it is ready to harvest.
- **Participation in forestry extension activities.** The owner participates in forestry extension activities. The Texas A&M AgriLife Extension Service offers periodic programs for timberland owners and has publications on many subjects that are beneficial to timberland landowners.
- **Consulting foresters.** Has the owner contracted with or hired a private consulting forester to help manage the timber? What were the results of this collaboration? Is the owner operating on the written advice of a consulting forester?

Exceptions to Current and Active Devotion

In determining whether land is currently and actively devoted principally to the production of timber or forest products,

a chief appraiser may not consider the purpose for which a portion of a parcel of land is used if the portion is:

- Used for timber production or forest products, including a road, right-of-way, buffer area or firebreak; or
- Subject to a right-of-way taken through the exercise of the power of eminent domain; and
- If the remainder of the parcel of land qualifies for appraisal as timberland.[32]

3. Timber Production Must be the Land's Primary Use

Land that is currently and actively devoted to timber production does not qualify for productivity appraisal unless timber production is the land's primary use.[33] If the owner uses the land for more than one purpose, the principal use must be growing timber.[34] Although the distinction between current and active devotion and primary use may be subtle, the two criteria are different.[35]

Though timber production must be the primary land use, other compatible uses do not prevent land from qualifying if timber production remains the primary use. For example, if an owner uses land principally to grow timber and leases it for hunting, it would qualify. If hunting activities are the primary use of the land and the timber is used to create an environment for wildlife production, the land would not qualify for timber productivity appraisal.

The chief appraiser must determine all the uses the owner puts the land and decide which is the primary use. If any use is incompatible with timber production or if it replaces timber production as the primary land use, the land is not principally devoted to timberland use and cannot qualify for timber productivity appraisal.

Situations in Which Timber Production may not be the Land's Primary Use

The primary use test is particularly important for timberland because the kind of intensive management required to grow agricultural crops is not necessary to grow timber. This less visible management activity can make it difficult to determine the primary land use.

The following examples are illustrations of when timber production may not be the land's primary use though the land appears to be currently and actively devoted to timber production. The chief appraiser should use the examples as a trigger for further, careful investigation of the application.

- **Presence of deer-proof fences on the property.** Although not always, the existence of deer-proof fences around the property may indicate that the property is being used for wildlife management. The chief appraiser must determine if the owner's principal use is timber production, hunting or wildlife management.
- **Presence of stock or wildlife ponds on the property.** Ponds are not normally necessary to conduct of timber management activities or timber harvesting. The existence of ponds may trigger further investigation of the land's primary use.
- **Land being readied or held for development.** Some timber harvests may indicate that the land is being prepared for housing development rather than used principally to grow timber. (These are commonly referred to as real estate cuts.) Though a sign offering land for development or one indicating it is zoned for industrial or residential use might be an indication that land is being used principally for development, it is not conclusive. The chief appraiser should seek additional evidence.
- **Presence of homes, vacation facilities, retreats and recreational facilities on the property.** The existence of dwellings and recreational facilities, such as retreats, camps, lodges and similar facilities, may indicate the timberland is being used to provide an aesthetic environment for these facilities. If so, timber production may not be the land's primary use.

Primary Use Guidelines

A chief appraiser may establish reasonable and carefully developed guidelines for determining primary use. Establishing guidelines requires the chief appraiser to become familiar with timber activity in the area. The chief appraiser may also rely on the expertise of the agricultural appraisal advisory board in establishing primary use guidelines.

Guidelines should serve as a trigger for further investigation rather than be arbitrarily or automatically applied. For example, a chief appraiser whose guidelines require a forest management plan should not automatically deny timber appraisal to an owner who does not have a plan. A property

[32] Tex. Tax Code §23.72(b)(c)

[33] Tex. Tax Code §23.72(a)

[34] Tex. Tax Code §23.72

[35] Tex. Tax Code §§23.72(a) and 23.42(a)(3)

owner with no forest management plan may be managing the land more actively and intensely than other owners who have forest management plans. Land should qualify for productivity appraisal if its use meets all other eligibility qualification requirements. The chief appraiser should use the lack of a forest management plan as a trigger to investigate the application more closely.

Arbitrarily applied guidelines can produce incorrect results. An application for timber productivity appraisal should not be denied because the chief appraiser discovers deer-proof fences, wildlife ponds, dwellings or recreational facilities on the property without further investigation. The presence of these structures is an indication, not conclusive proof, that timber production may not be the land's primary use. In these situations, the chief appraiser should carefully investigate the land's primary use.

4. Degree of Intensity

To qualify for productivity appraisal, timberland must be used to the degree of intensity generally accepted for timber growers using ordinary prudence in the area.[36] The degree of intensity test is intended to exclude from productivity appraisal land on which token timber activity occurs simply to get tax relief.

The law does not set degree of intensity standards. The chief appraiser must develop standards after carefully investigating the area's typical timber operations performed by landowners using ordinary prudence in the management of the land and the timber produced on the land.[37] After thoroughly studying the area, the chief appraiser should set minimum degree of intensity standards. The chief appraiser may also rely on the expertise of the agricultural appraisal advisory board in determining the typical degree of intensity for the timber grower using ordinary prudence.[38]

To set degree of intensity standards, the chief appraiser should analyze the major types of timber operations in the area, including:

- Breaking down the typical steps in producing timber;
- Attempting to specify typical amounts of time, labor, equipment, etc. used; and
- Obtaining information on forest types, soil types, timber growth and forest product prices.

Appendix A provides sources with information on which to base determinations; however, the chief appraiser bears ultimate responsibility for developing degree of intensity standards and determining timberland productivity value. Degree of intensity standards vary from one timber growing area and operation to another. In general, there are three different levels of management intensity as shown in **Exhibit 2**: custodial, minimal and intensive.

EXHIBIT 2
Levels of Management Intensity

Management Level	Description
Custodial Management	Hands-off management in which the only activities the owner conducts are payment of property taxes and occasional visits to the site. It is highly unlikely that a timber property that shows no indication of management activity for two or more decades is being actively devoted to timber production.
Minimal Management	Falls anywhere between custodial management and intensive management. The owner may undertake some activities, such as periodic thinning, regular site visits or maintenance of an access road.
Intensive Management	Involves many activities, including careful soil preparation for replanting, regular thinning and/or prescribed burning to reduce competing vegetation, removal of undesirable trees, following a program to check for and control insects and disease, prompt actions to control insects and disease and building and maintaining roads to the site.

Large timber plantations owned by corporations may receive intensive management; small operations owned by individuals may receive custodial management. The chief appraiser's degree of intensity standards should recognize these different levels of management activity and differences among timber operations.

In most cases, property owners must prove that they are following the common production steps for their type of operation and using typical amounts of labor, management and

[36] Tex. Tax Code §23.72(a)
[37] Tex. Tax Code §23.71(2)
[38] Tex. Tax Code §6.12(g)

investment. A timber growing operation, however, is not disqualified simply because it differs from the typical operation in some respects. Appraisers should not, for example, disqualify a custodial timber operation because many comparably sized operations are more management intensive. Nor should an owner who is clearly meeting the degree of intensity test be disqualified because the operation has some element of the degree of intensity test missing. The total effort finally determines whether a given timber growing operation qualifies, not the level of each separate input.

The degree of intensity test applies to the appraisal year only. It does not apply to the historical use (time period) requirement.[39] Land used principally for timber for five of the preceding seven years may qualify even if it was not used to the typical degree of intensity during those years.[40]

The chief appraiser should not apply minimum degree of intensity standards arbitrarily—they are a trigger for a more careful review of the application. For example, if the minimum standards require regular thinning of competing vegetation, the application should not be denied simply because the land is not thinned regularly. The chief appraiser should instead carefully review the application and inspect the property to determine if the land qualifies.

5. Intent to Produce Income

The owner must use the land with intent to produce income.[41] Like the degree of intensity test, this test excludes owners who are not producing timber and who are trying to use productivity appraisal to avoid paying property taxes on the land's market value. For example, in Texas Attorney General Letter Opinion LO-88-89, the Attorney General stated that land used solely for cutting wood to build fences for ranch operations, with none of the wood sold commercially, does not qualify for timber appraisal. Whether the owner has intent to produce income is a fact question for the chief appraiser to decide.

To qualify, the owner is not required to prove that the land has produced income in the current year. Timberland does not produce income regularly because the time between harvests is long. At the time of qualification, however, the owner must show evidence of intent to produce income.[42]

Land that does not produce income (in this context, income means net income) during the time in which a prudent manager would have produced income may not qualify. Further, an owner probably has no real intent to produce income if he or she has had no expenses directly related to the timber operation within the last two decades.

The chief appraiser may use expense receipts, canceled checks or current accounts of expenses, labor and revenues to determine if the owner has expenses directly related to timber production. An owner seeking to produce income usually keeps these types of records.

Some examples of evidence of intent to produce income are:

- Receipt of revenues through sale of timber;
- Letters or other documents showing that the owner attempted to sell the timber;
- A contract of sale;
- Receipts, canceled checks and other evidence that the owner had expenses or income related to the timberland's use;
- Investments in improvements to enhance the existing timber's value;
- Purchase of easements to allow loggers access to landlocked tracts;
- Investments in substantial amounts of reforestation or smaller amounts if other parts of the tract are already in commercial timber;
- Attempts to salvage timber that has value but that is damaged or dead;
- Using a consulting forester to help manage the land;
- Hiring someone to conduct a timber sale; and
- Seeking recommendations of a public forester before making a timber sale.

6. Historical Use Requirement

Land used primarily for either timber or agricultural production during any five of the previous seven years may qualify for timber productivity appraisal.[43] A landowner may point to a history of agricultural use that would qualify the land for productivity appraisal to meet this requirement. If either timber or agriculture was the principal use in the preceding years, the land qualifies even if that use may not have met the degree of intensity requirement in all or some of those years. This historical use requirement attaches to the land. A

[39] Tex. Tax Code §23.72

[40] Tex. Tax Code §23.72(a)

[41] Tex. Tax Code §23.72(a)

[42] Tex. Tax Code §§23.72 and 23.75(b)(1)

[43] Tex. Tax Code §23.72(a)

property owner is required to demonstrate a history of primary agricultural use or timber production that meets the five-year test; presumably the property owner's business records will help establish this history.

Cessation of Timberland Production

Circumstances under which the land's eligibility for timberland appraisal does not end when the land ceases to be devoted principally to timber or forest products to the area's generally accepted degree of intensity may include the following:

Portions of Property

A chief appraiser may not consider the purpose for which a portion of a parcel of land is used if the remainder of the parcel of land that qualifies for appraisal as timberland is:

- Used to produce timber or forest products, including a road, right-of-way, buffer area or firebreak; or
- Subject to a right-of-way that was taken through the exercises of the power of eminent domain.[44]

Oil and Gas Operations on Land

Land's eligibility for timberland appraisal does not end because a lessee under an oil and gas lease begins conducting oil and gas operations over which the Texas Railroad Commission (RRC) has jurisdiction; however, the portion of the land on which oil and gas operations are not being conducted must otherwise continue to qualify for appraisal.[45]

Pad sites, oil field roads, electric lines to oil and gas operations, pipelines and tank batteries are activities attributable to oil and gas operations under the RRC's jurisdiction. Oil and gas operations under RRC's jurisdiction can be found on its website.

Land Located Within the Boundaries of a City or Town

Land within a city's boundaries often will not qualify for special appraisal. Land located within an incorporated city or town must meet the productivity appraisal criteria and one of the following additional criteria:

- The city or town must not provide the land with general services comparable to those provided in other parts of the city or town having similar features and population density.
- The land was devoted principally to production of timber or forest products continuously for the preceding five years.
- The land was devoted principally to agricultural use or to the production of timber or forest products continuously for the preceding five years.[46]

Land Owned by a Non-Resident Alien or Foreign Government

Some kinds of foreign ownership make the land ineligible for productivity appraisal.[47] If the property owner is a non-resident alien (a non-U.S. citizen who does not reside in the United States), the land cannot qualify.[48] Similarly, a corporation cannot qualify its land if a non-resident alien, a foreign government or both control the corporation.[49]

The Texas Supreme Court held in *HL Farm Corp. v. Self*, 877 S.W.2d 288 (Tex. 1994), that Tax Code, Section 23.56(3), which bars foreign corporate and governmental ownership from qualifying land for agricultural appraisal, unconstitutionally violates the Texas Constitution's guarantee of equal protection. Although the Court's opinion did not address the ineligibility of nonresident aliens (Tax Code, 23.56 (2)), its reasons for holding subsection (3) of that statute unconstitutional also applies to the nonresident's eligibility for timber productivity appraisal.

The *HL Farms* case did not address timber appraisal, but the law-making productivity appraisal unavailable to foreign owners is identical to the agricultural appraisal law. Tax Code Section 23.77(2) and (3) is identical to Tax Code Section 23.56(2) and (3). Because of the similarity between the agricultural appraisal and the timber appraisal sections, a court is likely to hold that *HL Farms* applies to timberland. A chief appraiser should seek the advice of an attorney if confronted with a timber appraisal application submitted by a foreign owner.

Land on Which 1-d-1 Appraisal is Waived

A property owner may waive the right to productivity appraisal, including timberland appraisal under Tax Code

[44] Tex. Tax Code §23.72(b) and (c)

[45] Tex. Tax Code §23.765

[46] Tex. Tax Code §23.77

[47] Tex. Tax Code §23.77(2) and (3)

[48] Tex. Tax Code §23.77(2)

[49] Tex. Tax Code §23.77(3)

Chapter 23, Subchapter E.[50] A productivity waiver is effective for 25 years and applies to the land even if ownership changes.[51] Property owners may file a waiver even if the land does not qualify for productivity appraisal.[52] Waivers may be filed with some or all the taxing units that tax the property.[53]

A waiver filed before May 1 becomes effective when it is filed, however, the chief appraiser may extend the May 1 deadline for 60 days for good cause.[54] Waivers filed after the deadline become effective in the next tax year.[55]

To revoke a waiver, the property owner must file an application for revocation with the governing body of each taxing unit where the waiver is effective.[56] The taxing unit's governing body must vote to approve the revocation and make a finding that the revocation will not affect any of the taxing unit's debt obligations.[57]

In the following instances, a waiver may not be revoked:

- The Texas Commission on Environmental Quality is authorized to make rules ensuring that waivers submitted to conservation and reclamation districts are properly and timely executed and are irrevocable.[58]
- The Texas Transportation Commission has authority to make the rules for waivers submitted to road utility districts within the commission's jurisdiction.[59]
- Commissioners courts have the authority to approve waivers submitted to road districts created by the commissioner's court.[60]

Converting Land

If certain criteria are met, a landowner can convert the primary use of the land from one use to another and still receive special appraisal valuation. Examples include converting timberland to wildlife management or converting 1-d-1 land to timberland.

[50] Tex. Tax Code §23.20(a)
[51] Tex. Tax Code §23.20(c) and (d)
[52] Tex. Tax Code §23.20(c)
[53] Tex. Tax Code §23.20(b)
[54] Tex. Tax Code §23.20(c)
[55] Tex. Tax Code §23.20(c)
[56] Tex. Tax Code §23.20(d)
[57] Tex. Tax Code §23.20(d)
[58] Tex. Tax Code §23.20(d) and (e)
[59] Tex. Tax Code §23.20(e)
[60] Tex. Tax Code §23.20(d) and (e)

Wildlife Management

In 2009, the Texas Legislature allowed qualified timberland to convert to agricultural use under wildlife management.[61] Timber production satisfies the historical use requirement needed to qualify for open-space appraisal if the land is devoted principally to an agricultural use or to the production of timber or forest products.[62]

If land is used for wildlife management and meets certain agricultural use requirements, it may qualify for special appraisal and is technically in agricultural use.[63] Property may qualify for wildlife management special appraisal if the land is being actively used in one of the three following ways:

1. as qualified open-space land or as qualified timberland, at the time wildlife management use began, to propagate a sustaining breeding, migrating or wintering population of indigenous wild animals for human use including food, medicine or recreation in at least three of the following ways:

    - Habitat control,
    - Erosion control,
    - Predator control,
    - Providing supplemental supplies of water,
    - Providing supplemental supplies of food,
    - Providing shelters, or
    - Making census counts to determine population;[64]

2. to protect federally listed endangered species under a federal permit if the land is:

    - Included in a habitat preserve and is subject to a conservation easement created under Natural Resources Code Chapter 183; or
    - Part of a conservation development under a federally approved habitat conservation plan that restricts the use of the land to protect federally listed endangered species;[65] or

[61] Tex. SB 801, 81st Reg. Sess. (2009)
[62] Tex. Tax Code §23.51(1)
[63] Tex. Tax Code §§23.51(1), (2) and (7), 23.521 and 34 Tex. Admin. Code 9.2001-9.2005
[64] Tex. Tax Code §23.51(7)(A)
[65] Tex. Tax Code §23.51(7)(B)

3. for a conservation or restoration project to provide compensation for natural resource damages subject to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. Section 9601 et seq.), the Oil Pollution Act of 1990 (33 U.S.C. Section 2701 et seq.), the Federal Water Pollution Control Act (33 U.S.C. Section 1251 et seq.) or Natural Resources Code Chapter 40.[66]

The Texas Parks and Wildlife Department (TPWD), with the assistance of the Comptroller's office, developed standards for determining the qualification of land for wildlife management use.[67] These standards are adopted by rule and published in Title 34, Texas Administrative Code, Sections 9.2001–9.2005.[68]

The Comptroller's office also publishes the *Guidelines for Qualification of Agricultural Land in Wildlife Management Use,* and TPWD publishes the *Comprehensive Wildlife Management Planning Guidelines* for each ecoregion in Texas. The chief appraiser is required to determine if land qualifies for agricultural appraisal based on wildlife management use in compliance with, and in a manner consistent with:

- Comptroller Rule 9.2005 Wildlife Use Requirement;
- Comptroller's *Manual for the Appraisal of Agricultural Land;*
- TPWD's *Guidelines for Qualification of [Agricultural] land in Wildlife Management Use*; and
- TPWD's *Comprehensive Wildlife [Management] Planning Guidelines* for the ecoregion in which the tract of land is located.[69]

These resources, and TPWD's website, provide additional information on specific issues involving wildlife management use as it pertains to qualifying for special appraisal.

Timber in Transition

In 1997, the Legislature added Tax Code Section 23.59 to allow for timber in transition.[70] These are tracts that were appraised as open-space land for at least five preceding years and are converting from an agricultural use to timberland.[71]

The owner can elect for the land to continue to be appraised as open-space agricultural land for 15 years by submitting a new application for agricultural appraisal and indicating the conversion to timberland.[72]

The land qualified as timber in transition is appraised as if it were still in the same category of agricultural use that it was immediately before conversion to timber.[73] The election remains in effect for 15 years or until a change in land use occurs.[74] During this period, the land must continue to qualify as timberland under Tax Code 23, Subchapter E.[75] If the land continues to qualify as timberland in the 16th and subsequent years, it will be appraised as timberland according to the methodology set out in this manual.[76]

For example, a tract of land in Polk County qualified as open-space agricultural land in 2010. The land's soil is Diboll-Keltys, which has a site index of 80. (See discussion of site index in Timberland Appraisal Process, Step 2) The land was classified as Native Pasture I until March 2018 when the owner began site preparation for conversion to a pine plantation.

At that time, the owner submitted a new application for open-space agricultural appraisal and indicated the land was being converted from native pastureland to timber. If the land continues to qualify as timber, the tract will be appraised as if it were still Native Pasture I through the 2033 tax year. Beginning on Jan. 1, 2034, the tract will be appraised as timber and classified as Pine II (See discussions of forest type, soil classification and site index in Timberland Appraisal Process, Steps 1 and 2).

[66] Tex. Tax Code §23.51(7)(C)
[67] Tex. Tax Code §23.521(a)
[68] Tex. Tax Code §23.521(a)
[69] Tex. Admin. Code §9.2004(a)
[70] Tex. HB 1723, 75th Sess. (1997)
[71] Tex. Tax Code §23.59(a)
[72] Tex. Tax Code §23.59(a)
[73] Tex. Tax Code §23.59(a)
[74] Tex. Tax Code §23.59(b)
[75] Tex. Tax Code §23.59(a)
[76] Tex. Tax Code §23.59(c)

Application for Timber Productivity Appraisal

A landowner seeking timber productivity appraisal must complete and file a valid application with the chief appraiser of the county where the land is located.[77] Property owners whose land is appraised by more than one appraisal district must file an application in each district.[78] To be valid, the application must contain the information necessary for the appraisal district to determine the validity of the claim.[79]

In applying for timberland special appraisal, the property owner must use the appraisal district's form.[80] The appraisal district must use the Comptroller's model form or a form that substantially complies with it.[81] The chief appraiser can require an applicant to supply additional information if the initial application does not contain all the information necessary to make a determination on an application.[82]

A property owner with multiple land tracts may file a single application form covering all tracts within an appraisal district but must include enough information to show that all tracts qualify.

The chief appraiser may encourage the property owner to file a single form if the owner manages several tracts as a unit. The chief appraiser must consider the entire timber growing operation as a unit, not separately based on the activities on each individual parcel. The single application form notifies the appraisal district of the unity of operation.

[77] Tex. Tax Code §23.75(a)

[78] Tex. Tax Code §23.75(a)

[79] Tex. Tax Code §23.75(b)

[80] Tex. Tax Code §23.75(b) and 34 Tex. Admin. Code §9.402(a)

[81] 34 Tex. Admin. Code §9.402(a)

[82] Tex. Tax Code §§23.75(b)(2); 23.79(a) and (b); and *Cordillera Ranch, Ltd. V. Kendall County Appraisal District*, 136 S.W.3d 249, 254 (Tex. App.—San Antonio 2004, no pet.) (burden of proof on applicant to clearly show that they are entitled to special appraisal)

Application Forms

The timberland productivity appraisal application form allows a claimant who has previously been allowed productivity appraisal to indicate no change to previously reported information and only supply information not previously reported.

Comptroller Form 50-167, *Application for 1-d-1 (Open-Space) Timberland Appraisal* is available on the Comptroller's website.

The Comptroller's website includes the following additional forms that may be used to request special appraisal for 1-d-1, timberland use or ecological laboratory or timberland use:

- Form 50-129, *Application for 1-d-1 (Open-Space) Agricultural Use Appraisal*
- Form 50-166, *Application for Open-Space Land Appraisal for Ecological Laboratories*
- Form 50-281, *Application for Restricted-Use Timberland Appraisal*

Filing Deadline and Extension

The deadline for filing applications is before May 1, meaning the application form must be postmarked April 30 or filed no later than midnight on April 30.[83] The chief appraiser may extend the deadline at the property owner's request in writing, for good cause, but not for more than 60 days.[84] If the timely request for extension is granted, a late application penalty should not be imposed.

Tax Code Chapter 23 does not define good cause to excuse late applications for special appraisal. Good cause is commonly understood as circumstances the applicant could not control, such as being sick or injured and not able to transact

[83] Tex. Tax Code §23.75(d)

[84] Tex. Tax Code §23.75(d)

normal business for a period that effectively prevents filing on time. Being out of town on business or vacation or simply forgetting about the filing deadline typically is not enough to show good cause. Each appraisal district should prescribe its good cause requirements.

Late Application and 10 Percent Penalty

If the filing deadline is missed, the property owner may file a late application until the appraisal review board (ARB) approves records for that year (usually in July).[85] An application filed after the filing deadline is subject to a penalty equal to 10 percent of the difference between the tax imposed at market value and the tax imposed at the timber productivity value.[86] If the chief appraiser extended the application filing deadline for the property owner under Tax Code Section 23.75(d), this penalty does not apply.

Chief appraisers must note the penalty in the appraisal records and send the property owner written notice explaining the reasons for imposing the penalty.[87] The tax assessor adds the penalty amount to the tax bill and collects the penalty along with the annual tax payment.[88]

The penalty constitutes a lien against the property and accrues penalty and interest in the same manner as a delinquent tax.[89]

Failure to File the Application Form

If a property owner does not file a valid application before the ARB approves the appraisal roll, the land is ineligible for productivity appraisal in that tax year.[90] New owners are not eligible for timberland productivity appraisal unless they apply.[91]

One-Time Application

Once the application is filed and approved, the land continues to receive productivity appraisal every year without a new application unless:

- The ownership changes;
- The land's eligibility ends; or
- The chief appraiser requires a new application.[92]

If the chief appraiser has good cause to believe that the land no longer is eligible for special appraisal, the chief appraiser may deliver to the property owner written notice that a new application is required along with the application form itself.[93]

Penalty for Failure to Provide Notice of Eligibility Termination

Property owners who receive special appraisal on their land must notify the appraisal district in writing before May 1 if or when the eligibility for special timberland appraisal ends.[94] Examples of eligibility change include that the land is no longer in timber use or the degree of intensity fell below that typical for the area.

If the property owner fails to notify the appraisal district of the change in eligibility, the property owner incurs a penalty equal to 10 percent of the difference between the taxes imposed under the timber use and the taxes that would otherwise have been imposed.[95]

The chief appraiser must notify the property owner when a penalty is imposed and explain the procedures for protesting the penalty.[96] The chief appraiser notes the imposition of the penalty in the appraisal records, and the tax assessor adds the amount of the penalty to the property's annual tax bill.[97] The penalty constitutes a tax lien on the property and accrues penalty and interest in the same manner as a delinquent tax.[98]

Erroneously Granted Special Appraisal

If chief appraiser discovers that special appraisal was erroneously allowed in any one of the five preceding years because the property owner failed to notify the appraisal district that eligibility for special appraisal ended, the chief appraiser must add the difference between the land's special appraised value and the land's market value to the appraisal.[99]

[85] Tex. Tax Code §§23.751 and 41.12
[86] Tex. Tax Code §23.751(b)
[87] Tex. Tax Code §23.751(c)
[88] Tex. Tax Code §23.751(d)
[89] Tex. Tax Code §23.751(d)
[90] Tex. Tax Code §§23.75(e) and 23.751
[91] Tex. Tax Code §23.75(e)
[92] Tex. Tax Code §23.75(e)
[93] Tex. Tax Code §23.75(e)
[94] Tex. Tax Code §23.75(h)
[95] Tex. Tax Code §23.75(h)
[96] Tex. Tax Code §23.75(i)
[97] Tex. Tax Code §23.75(i)
[98] Tex. Tax Code §23.75(i)
[99] Tex. Tax Code §23.75(j)

For example, if a timber producer reduces the scale of the operation so that timber is no longer the land's principal use, the land is not eligible for productivity appraisal. If the landowner fails to notify the appraisal district and, therefore, receives productivity appraisal, the land is back assessed. For each year in question (not to exceed five years), the owner must pay the difference between the taxes based on productivity appraisal and the taxes based on market value.[100] The owner also must pay a 10 percent penalty on that difference.[101] Because the land has not been taken completely out of timber use, it is not subject to rollback taxes. Rollback taxes are only imposed when land is no longer used for timber or agricultural purposes.[102] Rollback procedures are discussed in detail later in this manual.

Chief Appraiser's Action

The chief appraiser must review each application and decide whether to:

- Approve it and grant productivity appraisal;
- Disapprove it and ask for more information; or
- Deny the application.[103]

The chief appraiser must make one of the three actions listed above as soon as practicable but not later than 90 days after the later of the following two dates:

- Date the applicant's land is first eligible for appraisal as timberland; or
- The date the applicant provides the necessary information.[104]

The chief appraiser uses his or her independent professional judgment to determine the validity of all timely filed applications. The chief appraiser must rule on all late-filed applications before the ARB approves the records for that year.[105]

If an application is denied, the chief appraiser must notify the applicant in writing not later than the fifth date of their determination. The notice must state and fully explain each reason for the denial and the procedures for protesting it.[106] Notice must be sent by certified mail.[107]

The appraisal records are turned over to the appraisal district's ARB for review and determination of protests.[108] The ARB is appointed to act independently of the chief appraiser, and to make fair and impartial determinations. The deadline for the chief appraiser to submit the appraisal records to the ARB is May 15 or as soon afterward as possible.[109]

Property owners who were denied productivity appraisal may file a protest with the ARB.[110] Taxing units that believe special appraisal was erroneously granted to any property owner may seek to remove that special appraisal by filing a challenge with the ARB.[111] The ARB hears these protests and determines whether land is improperly granted special appraisal.[112]

Additional Information

The chief appraiser may request additional information to determine whether a property qualifies for timberland productivity appraisal.[113] This request must be delivered via a written notice to the applicant as soon as practicable but not later than the 30th day after the date the application was filed with the appraisal district. The notice must specify the additional information the applicant must provide so the chief appraiser can make a determination. The applicant must provide the additional information not later than the 30th day from the date of the request or the application will be denied.[114] The chief appraiser may extend the deadline for good cause to allow additional information, but for no more than 15 days.[115]

Information contained in income statements, income tax returns, land lease rates and lease agreements are not necessary to determine whether the land qualifies. If the chief appraiser asks a property owner for this type of information, the request should clearly state that the owner is not required to give the information to qualify for productivity appraisal.

[100] Tex. Tax Code §23.75(j)
[101] Tex. Tax Code §23.75(h)
[102] Tex. Tax Code §23.76(a) and (h)
[103] Tex. Tax Code §23.79(a)(1), (2), (3)
[104] Tex. Tax Code §23.79(a)
[105] Tex. Tax Code §§23.751(a) and 23.79(c)
[106] Tex. Tax Code §23.79(d)
[107] Tex. Tax Code §1.07(d)
[108] Tex. Tax Code §23.79(c)
[109] Tex. Tax Code §25.22(a)
[110] Tex. Tax Code §41.41(a)(5)
[111] Tex. Tax Code §41.03(a)(4)
[112] Tex. Tax Code §41.01(a)(5)
[113] Tex. Tax Code §23.79 (b)
[114] Tex. Tax Code §23.79(b)
[115] Tex. Tax Code §23.79(b)

Summary of the Timberland Application Process

The property owner must file a completed application to qualify the land for timberland appraisal.

- An application must be filed in every appraisal district where the owner's property is located.[116]
- If an applicant owns several land tracts within one appraisal district, he or she may file a single application form covering all the tracts.
- The deadline for filing an application form is April 30 (before May 1).[117]
- The chief appraiser may extend the application deadline up to 60 days if the applicant requests an extension before the deadline and shows good cause for the extension.[118]
- Good cause is generally a reason not within the applicant's control that prevents timely filing.
- Late applications may be filed any time before the ARB approves the appraisal records for that year, subject to a penalty.[119]
- Failure to file an application before the ARB approves the records makes the land ineligible for timberland appraisal in that tax year.[120]
- After the land is approved for timberland appraisal, no new or additional applications are required unless ownership changes, eligibility ends or the chief appraiser requests one.[121]
- Property owners incur a penalty for failing to notify the appraisal district of a change in the category or class of timberland use or of the end of timber appraisal eligibility.[122]
- If the land is taken entirely out of timber production, it is ineligible for timberland appraisal.[123]
- If the property erroneously receives timberland appraisal, it is subject to back assessment and a penalty.[124]
- The chief appraiser is responsible for reviewing and approving, disapproving and asking for additional information or denying each application.[125]
- The chief appraiser must notify the applicant in writing of denial of an application and explain the reasons for the denial.[126] Notice must be sent by certified mail.[127]

[116] Tex. Tax Code §§6.01(b), 6.02(a) and 23.75(a)
[117] Tex. Tax Code §23.75(d)
[118] Tex. Tax Code §23.75(d)
[119] Tex. Tax Code §23.751
[120] Tex. Tax Code §§23.75(e) and 23.751
[121] Tex. Tax Code §23.75(e)
[122] Tex. Tax Code §23.75(h)
[123] Tex. Tax Code §23.72(a) and 23.73
[124] Tex. Tax Code §23.75(h) and (j)
[125] Tex. Tax Code §23.79
[126] Tex. Tax Code §23.79(d)
[127] Tex. Tax Code §1.07(d)

Rollback Procedures for Timberland

State law imposes an additional tax on qualified timberland each time it is taken out of timber use and is no longer eligible for productivity appraisal.[128] For the purposes of this manual, this additional tax is referred to as a "rollback."

The rollback recaptures the taxes the owner would have paid if the property had been taxed at market value each year of the preceding three-year period. A rollback is applicable only if the land was receiving productivity appraisal before its change of use.[129]

A property owner may take land out of timber use either by ending timber operations or by diverting the property to a nontimber use. Only a change of use triggers a rollback on timberland. If the property owner diverts part of a timber property to a nontimber use, the rollback applies only to the changed portion.[130]

Technically, the tax is a new, additional tax imposed by law on the date the cessation of timber production or change of use occurs.[131] The rollback tax bill delinquency date is the Feb. 1 which, allows for at least 20 days after the rollback tax bill is delivered to the owner of the land.[132] A tax lien attaches to the land on the date the change of use occurs.[133]

What Qualifies as a Change of Use?

There are several ways a chief appraiser might learn that a change of use occurred, such as from:

- The owner's written notification;
- Other filed transactions (such as a sale, issuance of a building permit);
- Field observations; or
- Word of mouth.

A change of use is a physical change. The owner must stop using the land to produce timber. For example, a timber grower who was receiving timber use appraisal may decide to stop timber operations entirely. The grower had the timber cut, does not plant new trees and shows no intention of replanting. Because the owner stopped all timber activity, productivity appraisal is removed, and the land incurs a rollback tax.

Reduced intensity of use below the degree generally accepted in the area at the owner's free choice causes a loss of productivity appraisal. For example, if the owner decides to use the land primarily for recreational purposes and timber is no longer the land's principal use, the land is no longer be eligible for productivity appraisal. If the land, however, is used for any kind of timber production, a rollback is not triggered.

Reduced intensity resulting from acts of nature does not prompt a loss of timber productivity appraisal. For example, severe fires, droughts, freezes or other natural disasters may extend the normal time land can remain out of timber production. In such cases, the land remains eligible for productivity appraisal until the owner clearly shows intent to give up timber operations permanently.

This principle also applies when damage is done to part of a tract. If a fire destroys 500 acres of a 3,000-acre forest—forcing the owner to temporarily cease timber operations on the 500 acres—the owner should continue to receive productivity appraisal on the destroyed part of the tract. In years of severe drought, many timber-growing operations fail. Because the owner invested money in the failed operation, planting may be delayed because money to start a new operation may not be available. The land should continue to qualify until the owner clearly shows that timber production will no longer take place on the land.

[128] Tex. Tax Code §23.76(a)
[129] Tex. Tax Code §23.76(a)
[130] Tex. Tax Code §23.76(d)
[131] Tex. Tax Code §23.76(a)
[132] Tex. Tax Code §23.76(e)
[133] Tex. Tax Code §23.76(b) and (e)

Timberland Development

Filing documents to plat land does not trigger a rollback. Only evidence that the actual use of the land has changed triggers the rollback. Plat documents provide some evidence of an intent to change use, but a physical change must occur, such as ceasing timber operations or installing utilities. Even in that case, the change of use may affect only part of the platted land. If the owner ceases timber operations on part of the platted land, only that part of the land is subject to rollback taxes.[134]

Failure to Reapply for Productivity Appraisal

An owner who fails to timely reapply for productivity appraisal may lose eligibility but will not suffer a rollback. Rollback requires an affirmative change of use. Failure to reapply alone does not signal an affirmative use change.

Rollback is a Significant Economic Penalty

Chief appraisers must exercise great care in determining when a change of use triggers a rollback. The imposition of a rollback is a significant economic penalty that should not be imposed when circumstances beyond a property owner's control cause an abnormally long but temporary suspension of timber production. Chief appraisers must keep in mind that change of use is often unclear and requires a delicate balance between fair application of the law and good decisions based on the facts of each situation.

Change of Use Notification

On determining either that timberland production has stopped entirely or that the land has been diverted to a non-agricultural use, the chief appraiser must send the property owner written notice of the determination as soon as possible.[135] The notice must explain the owner's right to protest the determination.[136] Appraisal districts may use the Comptroller's model Form 50-789, *Notice of Determination Resulting in Additional Taxation*. If an appraisal district creates its own form, it should include all information required by the applicable statute and Comptroller Rule 9.3049.[137]

The property owner may contest the change of use decision by filing a protest with the ARB within 30 days after the notice is delivered.[138] The ARB must hear a timely filed protest even if the appraisal records have been approved for the year.[139]

If the owner does not file a timely protest or if the final determination of the protest is that the rollback taxes are due, the tax assessor shall prepare and deliver a bill for the additional taxes as soon as is practicable.[140]

Taxes for the Year Use Changes

Tax Code Section 23.76 imposes rollback taxes–the difference between the property's market value and its timberland use value–for each of the three years preceding the year in which timberland use of the property ends.[141] In *Bexar Appraisal District v. Sivage Investments, Ltd.* (*Sivage*), the owner agreed that rollback taxes for the five years preceding the end of agricultural use were proper. The appeal arose, however, from "a dispute involving ad valorem taxes that were imposed for the year the use changed for property that previously qualified as open-space land."[142] The court of appeals held in *Sivage* that Tax Code "section 23.55 does not authorize the district to reappraise the land at the higher market value for the year the change of use occurs."[143]

The courts have also addressed the imposition of taxes for the year of a change in *McKinney Millennium, LP v. Collin Central Appraisal District* (*McKinney*)[144] In *McKinney*, the question was whether the tax code authorized the imposition of tax in the year of a change of use. The court held that "CCAD failed to establish as a matter of law that it had the authority to assess additional taxes on the property in the 'change of use' year."[145] Even though these cases dealt with 1-d-1, they provide guidance for the imposition of rollback taxes for

[134] Tex. Tax Code §23.76(d)

[135] Tex. Tax Code §23.76(e)

[136] Tex. Tax Code §23.76(e)

[137] Tex. Tax Code §23.76 and 34 Tex. Admin. Code §9.3049

[138] Tex. Tax Code §41.44(a)(3)

[139] Tex. Tax Code §41.45(a)

[140] Tex. Tax Code §23.76(e)

[141] HB 1743, 86th Leg., changed the rollback years from five preceding years to three preceding years. Consult your legal counsel for specific situations.

[142] *Bexar Appraisal District v. Sivage Investments, Ltd.*, 04-14-00227-CV, 2014 WL 6475369 (Tex. App.—San Antonio Nov. 19, 2014, no pet.) (mem. op.).

[143] *Bexar Appraisal District v. Sivage Investments, Ltd.*, 04-14-00227-CV, 2014 WL 6475369 (Tex. App.—San Antonio Nov. 19, 2014, no pet.) (mem. op.).

[144] *McKinney Millennium, LP v. Collin Cent. Appraisal Dist.*, 599 S.W.3d 57 (Tex. App.—Dallas 2020, pet.denied).

[145] *McKinney Millennium, LP v. Collin Cent. Appraisal Dist.*, 599 S.W.3d 57 (Tex. App.—Dallas 2020, pet.denied).

timberland use valuation. For questions about the *Sivage* or *McKinney* cases or the issues they address, see legal counsel.

Calculating the Rollback

The rollback covers the three calendar years preceding the year in which the change of use occurred.[146] For example, if the use changed in 2022, the rollback covers 2021, 2020 and 2019. The preceding years are based on the use from January through December and not on the tax collection periods.

Exhibit 3 shows that the rollback tax itself is the difference between the taxes imposed under productivity appraisal and the total taxes that would have been imposed on the market value of the land each year.[147] The due date for each year is the date tax bills were mailed that year.[148]

EXHIBIT 3
Example of Rollback Tax Calculation

Tax Year	Tax Paid	Tax on Market Value	Difference
2021	$150	$1000	$850
2020	125	900	775
2019	100	600	500
Total			$ 2,125

Gaps in the Three-Year Rollback Period

The three-year rollback period may cover one or more years when the property did not qualify for timber use appraisal. If the property used in the example above was taxed on market value in 2020, the rollback tax would have been computed for 2019 and 2021 only.

When are the Rollback Taxes Due?

The rollback is due when the rollback tax bill is mailed.[149] The rollback tax becomes delinquent if not paid before the next Feb. 1 that is at least 20 days after the tax bill is mailed.[150] For example, if the rollback tax bill is mailed on Jan. 9, the rollback tax becomes delinquent on Feb. 1, of that same year because there are 20 days between Feb. 1 and Jan. 9. However, if the bill is mailed Jan. 30, the rollback tax becomes delinquent Feb. 1 of the following year. On the delinquency date, the entire amount begins to accrue penalty and interest at the same rate as the delinquent taxes.[151]

A tax lien attaches to the land on the date the use changes.[152] The lien is imposed on behalf of all taxing units that levy taxes on the timberland.[153] The lien covers payment of the additional tax and any penalties and interest incurred if the tax becomes delinquent.[154]

The sale of timber property does not trigger a rollback tax. If land is sold at about the same time the use changes, the buyer and seller may dispute liability.[155] The person who has title to the property on the date the use changes is personally liable for the rollback tax, but the lien may be foreclosed against the land regardless of who is liable for taxes.[156] Tax certificates on land that receives productivity appraisal must note the appraisal and state that the land may be subject to additional taxes.[157]

Exempt Entities

Exemptions that apply to ordinary property taxes do not apply to rollback taxes. Even if the land might be exempt from ordinary taxes in the new owner's hands, the rollback tax still becomes due if the new owner takes the property out of timber use appraisal. In most cases, the property owner is personally liable for the rollback tax, and the tax lien may be enforced against the property.

The state is not subject to rollback taxes when it acquires, for a public purpose, property that previously was specially appraised.[158]

Exceptions to Rollback Sanctions

Some changes of use do not trigger a rollback.[159] The rollback sanctions for change of use imposed under Tax Code Section 23.76 does not apply to:

[146] Tex. Tax Code §23.76(a)
[147] Tex. Tax Code §23.76(a)
[148] Tex. Tax Code §31.01(a) and 31.02(a)
[149] Tex. Tax Code §31.02(a)
[150] Tex. Tax Code §23.76(e)
[151] Tex. Tax Code §23.76(e)
[152] Tex. Tax Code §23.76(b)
[153] Tex. Tax Code §23.76(b)
[154] Tex. Tax Code §23.76(b)
[155] *Sefzik v. Mady Dev., L.P.*, 231 S.W.3d 456 (Tex. App.—Dallas, 2007)
[156] Tex. Tax Code §23.76(b) and (e)
[157] Tex. Tax Code §31.08 and 34 Tex. Admin. Code §9.3040(b)
[158] Tex. Tax Code §23.76(f)(3)
[159] Tex. Tax Code §23.76

- Land dedicated for cemetery purposes that is in an unincorporated area of a county with a population of less than 100,000, if the land does not exceed five acres and is owned by a qualified not-for-profit cemetery organization.[160] In order for this exception to apply, the cemetery organization must dedicate the land for a cemetery purpose and the land is adjacent to a cemetery that has been in existence for more than 100 years.[161] The cemetery organization may not have dedicated more than five acres in the county for cemetery purposes in the five years before dedicating the land for cemetery purposes;[162]
- Land owned by an organization that qualifies as a religious organization if the organization converts the land to a use for which the land is eligible for an exemption under Tax Code Section 11.20 within five years;[163]
- A sale of land for right-of-way;[164]
- A condemnation;[165]
- A transfer of property to the state or a political subdivision of the state for a public purpose;[166]
- Land converted from timber use to an agricultural use that qualifies land for 1-d or 1-d-1 appraisal or to a use that qualifies as restricted-use timberland (see section on restricted-use timberland).[167]

Filing a waiver of timber use appraisal with the appraisal district does not constitute a change of use.[168]

The use of land does not change from timberland solely because the owner claims it as part of the owner's residence homestead for purposes of Tax Code Section 11.13.[169] If the property owner builds a residence homestead on land that formerly qualified for special appraisal, the owner avoids rollback only as long as the land remains the owner's residence homestead. Selling the home, however, may trigger a rollback on the land making up the homestead. In effect, the property owner must occupy the house for three years to avoid a rollback tax accruing for the years the land was not taxed at market value.

Questions and Answers about Rollback Procedures

Is a rollback triggered if land loses its eligibility for special appraisal or if the property owner does not reapply?

No. Only an end to all timber production or an affirmative change of use triggers a rollback under 1-d-1. If the land continues in timber production but no longer qualifies, it will be taxed at market value, but there will be no rollback tax.

Is a rollback automatically triggered if the property owner files documents to plat the land?

No. Evidence of the actual change of land use triggers the rollback. Plat documents provide some evidence but must be accomplished by physical change, such as ceasing timber operations, cutting roads or installing utilities. Even in that case, the change of use may affect only part of the platted land.

Do discounts for early payment apply to rollback taxes?

No. Discounts to encourage prompt payment of taxes apply only to regular property taxes. They do not apply to rollback taxes.

[160] Tex. Tax Code §23.76(j)
[161] Tex. Tax Code §23.76(j)
[162] Tex. Tax Code §23.76(j)
[163] Tex. Tax Code §23.76(i)
[164] Tex. Tax Code §23.76(f)(1)
[165] Tex. Tax Code §23.76(f)(2)
[166] Tex. Tax Code §23.76(f)(3)
[167] Tex. Tax Code §23.76(g)
[168] Tex. Tax Code §§23.20(g) and 23.76
[169] Tex. Tax Code §23.76(h)

Appraisal of Timberland

A market value appraisal of rural land might consider all three approaches to value: cost, market and income. A productivity appraisal uses a modified income approach and converts an estimate of the property's income into an estimate of the property's value.

The Tax Code requires the chief appraiser to estimate and record the market value of timberland under special appraisal.[170] The system must also provide for a market value appraisal according to generally accepted appraisal methods and techniques.[171] Appraisers should follow generally accepted appraisal principles in determining the market value of rural land.[172] Two sources of information include the International Association of Assessing Officers' *Property Assessment Valuation, Third Edition* and the Appraisal Institute's *The Appraisal of Real Estate, Fifteenth Edition*.

The productivity value of an acre of timberland equals the average annual net income a prudent manager could earn from growing timber over the five-year period preceding the appraisal's effective year, divided by a statutory capitalization rate.[173] For example, the 2021 productivity value would be based on the average for the years 2016 to 2020. Net income has two parts: gross income and production cost.

Gross income is calculated by computing potential average annual timber growth per acre and multiplying this amount by timber's average annual market price for that year. This computation is performed for each year of the five-year period.[174]

The average annual cost of producing timber in each of the five years is subtracted from gross income to find net income for the year.[175]

Average annual net income is computed by averaging net income for each year of the five-year period. This five-year average annual net income is then divided by the statutory capitalization rate to produce the productivity value of timberland. Timberland's productivity value is determined in 10 basic steps in **Exhibit 4**.

EXHIBIT 4

Steps to Determine Timberland's Productivity Value

1	Classify timberland into three forest types.
2	Classify timberland into four soil types.
3	Estimate average annual timber growth.
4	Convert timber growth into units for estimating gross income.
5	Estimate average annual timber prices.
6	Estimate average annual potential gross income of timber growth.
7	Estimate average annual costs of producing timber.
8	Estimate net income of timber growth.
9	Capitalize net income by statutory rate to develop per acre timber values.
10	Apply timber values to timber acreage within the district.

This section of the manual prescribes the methodology chief appraisers must use to calculate timberland's productivity value. Chief appraisers must estimate timber productivity values for three forest types and four soil types and apply these values to the different classes of timber within their respective districts.[176] At most, an appraisal district may have 12 classes of timber—four soil types for each of three forest types. Some districts may not have 12 classes of timber. For example, a district that contained only pine forest might have four classes of timber: pine soil class 1, pine soil class 2, pine soil class 3 and pine soil class 4.

[170] Tex. Tax Code §23.73(c)
[171] Tex. Tax Code §23.01(b)
[172] Tex. Tax Code §23.01(b)
[173] Tex. Tax Code §§23.71(2), 23.73(a), and 23.74
[174] Tex. Tax Code §23.71(2)
[175] Tex. Tax Code §23.71(2)
[176] Tex. Tax Code §23.71(2)

Appendix B contains tables that illustrate this methodology, and the text frequently refers to these tables.

Chief appraisers must use "the land's potential average annual growth" in computing timber's gross income.[177] In this context, potential means possible. Consequently, the gross income of an acre of timberland is equal to the value of an average years' worth of possible growth. Chief appraisers must apply the value of a year's worth of possible growth to all timber in each forest and soil type category, irrespective of the size of trees on any one tract.

The result of defining gross income as the value of potential growth often confuses many timber growers, because trees of dramatically different ages and sizes may have the same values. Assume, for example, two tracts of timber, both planted in loblolly pine and both having the same soil type and other characteristics. One tract has pine seedlings six inches high from a recent replanting; the other has pine trees 80 feet high and ready for harvest. If the chief appraiser is following the law's requirements on timber appraisal, both tracts should have the same appraised values per acre.

In addition to advice from the Ag Advisory Board, chief appraisers must use information from the following four sources (**Appendix A**) to determine forest types, soil types, average growth and timber prices:

- United States Department of Agriculture (USDA) Forest Service;
- USDA Natural Resources Conservation Service (formerly the Soil Conservation Service);
- Texas A&M Forest Service; and
- Texas colleges and universities.[178]

Before using data from any of these mandatory sources, chief appraisers should check with the relevant agency for updates. For example, the USDA Forest Service periodically revises its published Texas Forest Inventory and Analysis inventory (FIA inventory) numbers with the assistance of the Texas A&M Forest Service. Chief appraisers should check with the Texas A&M Forest Service for revisions to the Texas FIA inventory numbers before using the data. Chief appraisers should not use data from any of these sources in any manner different from that shown in this manual without first checking with the relevant agency to be sure they are using the data properly.

The East Texas timber-growing region is composed of the 43 counties depicted in Appendix B, Figure 1. Chief appraisers must use regional data and Texas A&M Forest Service price data. Although the USDA Forest Service reports its Texas FIA inventory data at the county level, this agency cautions that FIA was not designed for the county level because it does not have enough plots in each county for an adequate sample size. The FIA is designed to produce reliable estimates at the sub-state, survey unit level. The Texas A&M Forest Service reports forest product price data at the region level but not at the county level.

1978 Value

When the Texas Legislature adopted timber productivity appraisal, the law was written to create a minimum taxable value on timberland. The minimum taxable value of qualified timberland is the market value assigned to the land by the taxing unit in 1978.[179] However, the taxable value used for any tax year may not exceed the market value as determined by other generally accepted appraisal methods.[180] The purpose of the minimum taxable value is to prevent significant tax base decreases in taxing units where timberland is now assigned productivity value. This means that timberland qualified for productivity appraisal is not taxed on its productivity value if that value is less than the 1978-assigned value.

A taxing unit's assessor must compare the total productivity value for the parcel with the taxing unit's 1978 value for the parcel.[181] If the total productivity value is less than the total 1978 value, the taxing unit's assessor must substitute the 1978 value for the entire parcel.[182]

If the nature of the parcel has changed, the assessor must use historical value to reconstruct what the entire parcel's value would have been in 1978. For example, if a parcel includes more land in the current year than it did in 1978, the assessor may not substitute a 1978 per-acre average for the new acreage. Instead, the assessor must use historical data to determine what the value for the entire tract would have been in 1978.

[177] Tex. Tax Code §23.71(2)

[178] Tex. Tax Code §23.71(2)

[179] Tex. Tax Code §23.78

[180] Tex. Tax Code §23.78

[181] Tex. Tax Code §23.78

[182] Tex. Tax Code §23.78

A taxing unit that did not exist or did not levy a property tax in 1978 may not substitute a 1978 value for the land's productivity value. The law permits only substitution of the 1978 value for the timberland in the taxing unit. A taxing unit that did not exist or that had no property tax in 1978 has no market value to substitute for the productivity value.

The tax assessor must determine or reconstruct a 1978 value for each taxing unit for which the assessor collects taxes. Each taxing unit's 1978 value must be applied separately from that of other taxing units. The law does not provide for an average 1978 value that is applied for all taxing units that had a 1978 value. Nor does it provide for a historical reconstruction that combines the taxing units having a value in 1978.

(For a discussion of Section 23.78 and its application, see: *Temple-Eastex, Inc. v. Spurger Independent School District*, 720 S.W. 2d 607, Tex. App. – Beaumont 1986, no writ.)

Step 1: Classify Timberland into Three Forest Types

Chief appraisers must estimate timber productivity values for three forest types and four soil types.[183] Chief appraisers should begin the appraisal process by classifying the timberland within their districts according to forest type. As shown in **Exhibit 5,** Texas has three basic forest types: pine, hardwood and mixed.

Chief appraisers may use aerial photographs, forest type maps and soil class maps from any competent governmental source to determine soil type, soil capability, general topography, weather, location and any other pertinent factors necessary to classify commercial timberland by forest type and soil type. If the chief appraiser elects to use maps from a data source not listed in **Appendix A**, the chief appraiser should verify that the maps are the most current and reliable maps available and that the data source is a competent governmental source.

Step 2: Classify Timberland into Four Soil Types

Chief appraisers must classify all timber-producing areas in their districts into four soil types.[184] The NRCS does not publish soil type maps that chief appraisers may use in appraising timberland, but chief appraisers should use NRCS soil survey data to develop soil type maps for their districts. NRCS detailed soil surveys show the site index for each specific soil. A soil-type map can be derived using this information.

The NRCS's soil classification system is based on the concept of site index. Site index is a measure of a forest site's productive capacity based on the average height of the tallest trees on the site at an arbitrarily chosen age. For example, if the average height of the five tallest loblolly pine trees in a fully stocked stand at the age of 50 years is 75 feet, the site index for loblolly pine trees on that forest site is 75. The NRCS publishes site index information in its soil surveys of Texas counties.

EXHIBIT 5
Forest Types

Pine	Hardwood	Mixed
Pine (and other softwood) timberland includes all forested areas in which the trees are predominantly green throughout the year and do not lose their leaves. These trees are called evergreens. Forested areas where pine and other softwoods make up more than two-thirds of the trees free to grow are in this category. Trees free to grow are those that are not covered by brush or other trees that prevent them from getting the sunlight necessary to grow.	Hardwood timberland includes all forested areas with a predominance of deciduous trees. These trees lose their leaves at the end of the frost-free season. Stands where hardwoods are more than two-thirds of the trees free to grow are in this category.	Mixed timberland includes all forested areas where both evergreen and deciduous trees are growing and neither predominates. An area is classified as mixed when evergreen and deciduous trees each make up more than one-third of the trees but less than two-thirds.

[183] Tex. Tax Code §23.71(2)

[184] Tex. Tax Code §23.71(2)

The NRCS soil surveys provide site index information for all land capable of growing commercial trees within each county. The NRCS site index data must be grouped into types that are generally comparable to the USDA Forest Service site classes. This information is then used to generate soil type maps. This is necessary because the USDA Forest Service reports timber growth data by site class, which is also a measure of soil productivity; however, the USDA Forest Service growth data by site class cannot be mapped because it was derived from a sample of selected Texas sites.

The USDA Forest Service classifies all commercial timberland into six site classes based on the land's potential capacity to grow commercial wood crops. Site class is a measure of timber growth in cubic feet per year. The USDA Forest Service determines site class by measuring the height of the three tallest trees at a site, and then selecting the tree providing the highest estimate of site class.

The USDA Forest Service defines the six site classes as follows:

1. Land capable of producing 225 cubic feet or more per acre per year;
2. Land capable of producing less than 224 but more than 165 cubic feet per acre per year;
3. Land capable of producing less than 164 but more than 120 cubic feet per acre per year;
4. Land capable of producing less than 119 but not more than 85 cubic feet per acre per year,
5. Land capable of producing less than 84 but not more than 50 cubic feet per acre per year; and
6. Land capable of producing less than 50 cubic feet per acre, per year.

To comply with the law's requirement to use four soil types, chief appraisers must reduce these six site classes to four.[185] The over 225 cubic feet site class and the 224-165 cubic feet site class should be combined with the 164-120 cubic feet site class to create the combined 120+ site class. This produces a classification scheme that works well with NRCS site index data discussed below.

The NRCS site index data must be grouped into ranges that are roughly comparable with USDA Forest Service's soil types. This grouping produces the following ranges shown in **Exhibit 6** below.

EXHIBIT 6
Soil Classification Schemes

USDA Forest Service Site Classes	USDA NRCS Site Index Range
120+ cubic feet	95+ feet
85-119 cubic feet	80-94 feet
50-84 cubic feet	60-79 feet
<50 cubic feet	<60 feet

Step 3: Estimate Average Annual Timber Growth

Chief appraisers must use the most current and reliable private timberland growth data from one of the legally required sources. (See **Appendix A** for a discussion of these sources.) The **Appendix B** tables use the most current and reliable growth data available at the time this manual was written.

Appendix B, Table 1 contains summary growth data for private timberland from the most recent FIA inventory. The Texas A&M Forest Service data shows the net average annual growth of Texas timber from 2015-2019, expressed as five forest products for each of three forest types and four site classes for each Texas timber region.[186] The Table 1 data is used to calculate the average annual growth per acre for each forest type expressed in terms of forest products.

The forest products are large pine sawtimber, small pine sawtimber, pine pulpwood, hardwood sawtimber and hardwood pulpwood.[187] The forest types are pine, mixed and hardwood. To avoid confusion, it is important to remember that pine forests—defined above to be at least two-thirds evergreen trees—may produce both pine and hardwood forest products. Likewise, hardwood forests—defined to be at least two-thirds deciduous trees—may produce both pine and hardwood products.

[185] Tex. Tax Code §23.71(2)

[186] The Texas A&M Forest Service, located in College Station, maintains Texas Forest FIA inventory data collected by the USDA Forest Service.

[187] Tex. Tax Code §23.71(2)

Table 2 shows these calculations for the East Texas region. All calculations are based on the Table 1 data. Table 2 shows the steps necessary to compute the growth for an average acre of pine in East Texas. For large pine sawtimber, for example (the forest product shown in the upper left-hand box), the chief appraiser should multiply the number of plots in each site class by the per-acre growth for that site class. A plot is an area defined by the USDA Forest Service for its survey work. Multiplying 209 (number of plots) by 341.29 (average growth per acre in board feet) in site class 120+ produces 71,435.41, which is the estimated total growth for this site class. The result of each calculation for the four different site classes is added and this sum is divided by the total number of plots for all four site classes. The resulting number, 263.69 board feet, is the average annual amount of large pine sawtimber grown on the average acre of pine in East Texas.

The computation methods necessary to calculate the average annual growth of the other forest products—small pine sawtimber, pine pulpwood, hardwood sawtimber and hardwood pulpwood—are identical to those for large pine sawtimber. Table 2 shows that the average acre of pine forest in East Texas grows annually 263.69 board feet of large pine sawtimber, 77.94 board feet of small pine sawtimber, 15.85 board feet of hardwood sawtimber, 29.43 cubic feet of pine pulpwood and 4.11 cubic feet of hardwood pulpwood.

Chief appraisers should use these same procedures to compute the average annual growth of an average acre of both mixed and hardwood forests in their counties. Complete calculations for all forest types are shown in Table 2. The results of the detailed calculations illustrated in Table 2 are summarized in Table 3.

Step 4: Convert Average Annual Timber Growth

The USDA Forest Service measures sawtimber growth estimates in the International 1/4-inch log rule and measures pulpwood growth estimates in cubic feet. A log rule is a scale for measuring the amount of sawtimber that a tree can produce.[188] The Texas A&M Forest Service collects timber sales data bimonthly from timber buyers and sellers; however, buyers and sellers report sawtimber transactions in tons. Consequently, the next step in the appraisal process is conversion of the growth estimates to the same scales in which forest product selling prices are reported.

Chief appraisers must use a log rule conversion table to develop factors to convert sawtimber growth from one log rule to another. Table 4 contains factors for converting board feet from the International 1/4-inch log rule to the Doyle log rule for East Texas. The individual conversion factors shown in the fifth column of these tables are for Texas timber. Chief appraisers should use these log rule conversion factors until subsequent log rule conversion factors are developed based on reliable and scientific data from sources listed in **Appendix A**.

Exhibit 7 shows the column headers from Table 4; see **Appendix B**, Table 4, for the full calculation example. The first two columns in Table 4 are from the most recent USDA Forest Service FIA inventory and show timber volumes by tree diameter class in East Texas. The fourth column, percent of total volume, shows volume for each diameter class as a percent of total volume. At the top of Table 4, for example, the reported volume for pine in diameter class 11 inches-12.9 inches is 5,258.7 million board feet. The 5,258.7 million board feet is divided by total volume, 30,921.1 million board feet, to produce 17.007 percent. The fifth column, conversion factor, is for Texas timber. The percentage and conversion factor for each diameter class are multiplied to produce the weighted contribution shown in the sixth column. Finally, these weighted contributions are added to produce the weighted conversion factor for pine in East Texas, which is 0.64352. The computations for the other conversion factors are identical. The timber volume data shown in both tables are for privately owned timberland.

[188] Dozens of recognized log rules in use in the U.S. based on various assumptions about tree taper, lumber shrinkage, cutting methods and waste. Chief appraiser should know the International ¼-inch (USDA Forest Service) and the Doyle log rules (Texas A&M Forest Service).

EXHIBIT 7

Table 4 Column Headers

Diameter Class	Volume in Million bd. ft. International 1/4" Log Rule	÷	Total Volume	=	Percent of Total Volume	X	Conversion Factor	X	Weighted Contribution

After calculating the weighted conversion factors for large pine sawtimber and hardwood sawtimber as illustrated in Table 4, chief appraisers should apply these conversion factors to the Table 3 sawtimber growth estimates. The results of these computations are shown in **Appendix B**, Table 5. For example, the chief appraiser should multiply 263.69 board feet of large pine sawtimber in the International 1/4-inch log rule (Table 3) by the weighted conversion factor of 0.64352 to get 169.69 board feet of pine sawtimber in the Doyle log rule. To convert the 169.69 board feet to thousand board feet, the chief appraiser should divide 169.69 by 1,000 to get 0.16969. This measure of board feet must now be converted to tons to conform to the net-to-land definition in Tax Code Section 23.71(2).

The conversion factors for this calculation are provided by the Texas A&M Forest Service's *Texas Timber Price Trends*. The chief appraiser multiplies the growth in board feet measured by the Doyle Rule by the ton conversion factor. Following the example above for large pine sawtimber, the calculation is 0.16969 board feet times 8 to get 1.3575 tons of growth for large pine sawtimber. The computations for hardwood sawtimber are identical.

The small pine sawtimber must also be converted from board feet measured by the International 1/4-inch log rule to tons. The chief appraiser should use the conversion factors provided by the Texas A&M Forest Service's *Texas Timber Price Trends*. The growth rate in International 1/4-inch log rule from Table 3, 77.94 board feet, is divided by the cord conversion factor of 500 to determine the growth rate in cords. The indicated growth in cords, 0.15588, is multiplied by the ton conversion factor of 2.7 to determine the growth rate in tons of 0.4209. Table 5 details these calculations.

The pulpwood growth volumes shown in Table 3 must be converted from cubic feet into cords and then into tons. The Texas A&M Forest Service reports the appropriate conversion factors in its *Texas Timber Price Trends*. Current issues suggest conversion factors for cubic feet of pine pulpwood and hardwood pulpwood to cords are 81 and 80, respectively. The conversion factors for cords to tons are 2.7 for pine pulpwood and 2.80 for hardwood pulpwood. Table 5 presents these calculation results.

Appendix B, Table 6 summarizes the annual average growth of an acre of timberland by forest type and forest product in East Texas. All growth is shown in tons. Based on the most recent data, the average annual growth of an acre of pine forest in East Texas is:

- 1.3575 ton of large pine sawtimber;
- 0.4209 ton of small pine sawtimber;
- 0.0931 ton of hardwood sawtimber;
- 0.9810 ton of pine pulpwood; and
- 0.1439 ton of hardwood pulpwood.

Step 5: Estimate Average Timber Prices

To determine the average annual gross income from an acre of timber, chief appraisers should multiply timber growth by its average annual price, or stumpage price. Stumpage price is the terminology used to indicate the price of uncut, marketable timber. Before doing this, however, the chief appraiser must calculate the average annual stumpage price of each of the five forest products for each year of the five-year period preceding the year of appraisal.

Texas A&M Forest Service's *Texas Timber Price Trends* provides selected summaries of price data and timber prices collected through its bimonthly surveys of forest industries, consulting foresters, government agencies and large landowners.[189] This publication reports selected price data for large and small pine and hardwood sawtimber sales, pine

[189] The Texas A&M Forest Service provides average annual stumpage prices summaries of various forest products for various years. It does not provide county-level data.

and hardwood pulpwood sales and other miscellaneous sales. Texas A&M Forest Service provides unpublished annual summaries upon request.

The Texas A&M Forest Service reports both unweighted average annual prices and weighted average annual prices for various forest products for both northeast and southeast Texas. These price reports are available on its website or upon request from the Texas A&M Forest Service. Chief appraisers should compute a simple average of these two reported prices and use this simple average in their timber appraisals.

Table 7 shows an example of how to calculate average annual stumpage prices for five forest products for each year from 2015-2019. As shown on Table 7, the average of unweighted and weighted prices for large pine sawtimber were $32.62 per ton in 2015; $28.17 per ton in 2016; $25.99 per ton in 2017, etc.

Step 6: Estimate Average Annual Potential Gross Income

Chief appraisers should calculate the average annual potential gross income of timber growth. The steps in this calculation are:

- Compute average annual gross income;
- Calculate soil productivity multipliers; and
- Use soil productivity multipliers to adjust average annual gross income to potential gross income.

First, chief appraisers should multiply the growth of each of the five timber products (Table 6) by its respective price (from Table 7) for each year of the five-year period. **Appendix B**, Table 8, shows these calculations. For example, the average annual gross income for an acre of pine forest in East Texas was $65.41 in 2015 and $58.78 in 2019. These numbers were computed by multiplying each forest product growth estimate by its respective price and then summing the products.[190]

Chief appraisers must then adjust the gross income estimates to reflect different soil productivities. To do this, the chief appraiser should develop productivity multipliers to adjust the average gross income. Productivity multipliers must be computed from current and reliable information from the legally required data sources. At the time this manual was written, USDA Forest Service data are the only current and reliable data available for developing soil productivity multipliers.

The USDA Forest Service data needed to compute productivity multipliers are:

- The most recent FIA inventory data for Texas; and
- Data contained in the Boyce study, conducted by the USDA Forest Service.

The Boyce study determined in 1975 the average annual maximum potential amount of timber that could be produced on an acre of loblolly pine east of the Mississippi River in each of four soil productivity classes.[191] The soil productivity classes used in the Boyce study correspond to the soil classification scheme developed in Step 2 of this manual. The example in **Exhibit 8** below shows the Boyce study growth estimates by soil class.

[190] Although the Tax Code Section 23.51(4), allows the chief appraiser to include "any income received from hunting or recreational leases" in the computation of net income of qualified agricultural land, nothing in the Tax Code Sections 23.71-23.79 governing timber appraisal allows inclusion of lease income in the computation of net income of qualified timberland.

[191] Stephen G. Boyce, Joe P. McClure and Herbert S. Sternitzke, *Biological Potential for the Loblolly Pine Ecosystem East of the Mississippi River*, USDA Forest Service, Southeastern Forest Experiment Station, Ashville, N.C., Research Paper SE-142, Oct. 1975.

EXHIBIT 8

Boyce Study Growth Estimates by Soil Class

Soil Productivity Class	Site Quality Class (cubic feet)	Site Index Range (feet)	Potential Timber Growth per Acre per Year (cubic feet)
Class I	120+	95+	163
Class II	85-119	80-94	123
Class III	50-84	60-79	85
Class IV	<50	<60	60

The concepts of site quality class and site index range were discussed earlier in Step 2, **Exhibit 6.** Potential timber growth per acre per year is the Boyce study estimates of the maximum potential growth of an acre of loblolly pine in each soil productivity class under ideal conditions.

Appendix B, Table 9, shows how to compute the average annual potential growth of an average acre. The first page of Table 9 lists acres by site class for each East Texas county. The data is from the most recent USDA Forest Service FIA inventory of Texas. The second page of Table 9 shows the results of multiplying the acreage in each site class in each county by the growth potentials developed in the Boyce study.

For example, the 15,700 acres in site class 165+ in Anderson County (Table 9) are multiplied by 163 (the growth potential for that site type). The result, shown on the second page of the table, is 2,560,000 cubic feet. This calculation is carried out for all site classes in each county. The resulting products are added to produce 1,297,544,300 cubic feet, which is the estimated total potential growth of timberland in East Texas. This total estimated potential growth is divided by the total number of acres, 10,910,600, to generate an estimate of the average annual potential timber growth of an acre of timberland in East Texas of 118.93 cubic feet per acre per year. As noted earlier, average annual potential growth is not the same as average annual actual growth.

Appendix B, Table 10, shows how to calculate soil productivity multipliers for the four productivity classes for East Texas. Chief appraisers should compute these productivity multipliers by dividing the growth potentials from the Boyce study by the growth potential for the region. To compute the productivity multiplier for productivity class II timberland, for example, chief appraisers should divide 123 by 118.93 to generate a productivity multiplier of 1.03.

Appendix B, Table 11, shows how to apply productivity multipliers to the average annual potential gross income estimates from Table 8. For example, the 2015 annual gross income of pine, $65.41, is multiplied by the productivity multiplier for each productivity class. This produces estimates of the average annual potential gross income of each productivity class in 2015.

It is important to remember that this potential gross income measure is not an estimate of the actual income an individual timber grower could receive from the sale of timber in a particular year. It is a measure of the value of a year's worth of possible growth in each timber category (forest type and soil productivity class) in the region.

Step 7: Estimate Average Annual Costs of Producing Timber

Texas law defines timber production costs as reasonable management costs and other reasonable expenses directly attributable to producing timber that a prudent manager of the land and timber, seeking to maximize return, would incur in the management of the land and timber.[192] The costs of producing timber include expenses related to establishing, owning, protecting, maintaining and improving timber. These costs may vary by forest type, soil productivity, management intensity and other factors. **Exhibit 9** shows examples of timber production costs.

[192] Tex. Tax Code §23.71(2)

EXHIBIT 9

Possible Timber Production Costs

- Professional services
- Site preparation
- Tree planting and seeding
- Timber improvement
- Protection against fire
- Insects and diseases
- Prescribed burning
- Maintenance of property boundaries
- Road construction and maintenance
- Measurements of standing timber
- Selling costs
- Property taxes
- Equipment use
- Mileage traveled to/from property for timber management
- Personnel supervision
- Administration

Because many foresters may include several activities under one general classification, chief appraisers should understand the components of a timber management activity to avoid duplicating or omitting costs.

The **Appendix C** cost model lists timber management activities with a typical frequency for each. Chief appraisers should use this general cost model as a basis for developing a district-specific cost model that reflects typical activities for a prudent manager in the district. Chief appraisers should add or delete activities to this model so that it reflects management activities that are typical for their districts.

After determining typical management activities and the frequency of each activity in the district, chief appraisers should estimate the average annual cost of each activity of a prudent manager. Sources of cost data include the Texas A&M Forest Service, landowners within the appraisal district, private contractors, consulting foresters and departments of forestry at Texas colleges and universities. Chief appraisers must develop costs that reflect typical management activities and typical frequencies for a prudent manager in their districts.

Chief appraisers may develop an average per acre cost for a typical tract in their districts; or an average per acre cost for each forest type. In either case, chief appraisers must adjust these costs to reflect different management costs for each timber category, because timber on more productive land is often managed more intensively, resulting in higher costs per acre. Adjusting average annual costs per acre for soil productivity classes is analogous to adjusting average annual gross income per acre to soil productivity classes, as discussed in Step 6.

Chief appraisers who develop one average cost for the typical tract must adjust this cost to reflect both forest type and soil productivities. To accomplish this, chief appraisers may use the following cost proration factors developed based on data from the Texas A&M Forest Service's *Texas Timberland Management Cost Study* shown in **Exhibit 10**.

EXHIBIT 10

Cost Proration Factors*

Forest Type	I	II	III	IV
Hardwood	0.45	0.40	0.30	0.20
Pine	1.20	1.00	0.80	0.35
Mixed	0.75	0.60	0.50	0.30

* *Factors may change based on future data from the Texas A&M Forest Service and are included for informational purposes in the following examples.*

Appendix B, Table 12, shows hypothetical costs for a hypothetical East Texas county. The hypothetical numbers in this table illustrate the timber appraisal process but are not numbers chief appraisers should use in their appraisals.

Appendix B, Table 13, shows the results of applying the cost proration factors to the hypothetical costs in Table 12. These cost proration factors are applied to an average cost for a typical timber tract. The proration factors adjust costs for both forest type and soil productivity class.

If chief appraisers develop an average cost for each forest type, they must adjust each of these costs to reflect the impact of different soil productivity classes. To accomplish that, chief appraisers apply the relationships within soil classes above to make the adjustments.

For example, assume that a chief appraiser determines that the average annual management cost of hardwood is $15 and that most of the hardwood in the district is in soil class II.

This $15 figure becomes the management cost for hardwood soil class II. The management cost for hardwood soil class I is $15 x 1.125, or $16.88. The 1.125 factor is derived by taking the relationship from the factors for hardwood in **Exhibit 10** (0.45 ÷ 0.40 = 1.125).

The management cost for hardwood soil class III is $15 x 0.75, or $11.25. The 0.75 is the quotient of 0.30 divided by 0.40. The proration factor for hardwood soil class IV is 0.20 ÷ 0.40 = 0.50 and the management cost is $15 x 0.50 = $7.50.

Step 8: Estimate Net Income of Timber

To calculate the average annual net income per acre for each timber type and soil productivity class, chief appraisers must subtract the average annual cost per acre from the average annual potential gross income per acre. This calculation must be performed for each forest type and soil productivity class. The results are the average annual net income per acre by forest type and soil productivity class. **Appendix B**, Table 14, shows these computations for hypothetical East Texas counties.

Step 9: Capitalize Net Income to Develop Timber Values

Chief appraisers must develop an average net income for each forest type and soil productivity class for the prior five years of average annual net incomes, capitalize this average net income and apply these productivity values to the timber acreage in their appraisal districts.[193] **Appendix B**, Table 15, shows how to perform these calculations for hypothetical East Texas appraisal districts.

The productivity value of an acre of timberland is determined by dividing the average net income per acre for each forest type and productivity class by the capitalization rate (cap rate) mandated by the Tax Code Section 23.74.

The mandated cap rate is:

1. The greater of the interest rate specified by the Farm Credit Bank of Texas (Bank) on Dec. 31 of the preceding year plus 2.5 percent or the cap rate used for the preceding tax year.[194]

2. If this calculated cap rate equals or exceeds 10 percent, the cap rate in each of the following tax years is the average of cap rates for the previous four tax years (other than a tax year preceding the year if the cap rate equals or exceeds 10 percent) and the current tax year Bank rate plus 2.5 percent.[195]

As seen in **Exhibit 11**, the Bank rate plus 2.5 percent was 10.13 percent (above 10 percent threshold) in 2007. Since 2011, the cap rate has been the average of the current tax year Bank interest plus 2.5 percent and the cap rates for the previous four years. The Comptroller's office publishes the current year's cap rate on its website.

Appendix B, Table 15, shows the results of dividing the net income per acre by a capitalization rate of 7.28 percent. For example, to get the productivity value of the average acre of pine forest in soil productivity class I, a chief appraiser would divide $36.14 (net income per acre) by 0.0728 (cap rate) to get $496.43. The chief appraiser should perform these calculations for each forest type and each soil productivity class in the appraisal district.

Step 10: Apply Timber Values to Timber Acreage Within the District

Lastly, chief appraisers should apply the per-acre values (Step 9) to each parcel of qualified timberland acreage in each forest type and soil productivity class in each taxing jurisdiction.

[193] Tex. Tax Code §§23.71(2), 23.73(a), and 23.74

[194] Tex. Tax Code §23.74(a)(1) and (2)

[195] Tex. Tax Code §23.74(b)(1) and (2)

EXHIBIT 11

Capitalization Rate Calculation

Year	Bank Interest Rate	Bank Interest Rate Plus 2.5 Percent	Capitalization	Comments
2006	6.55%	9.05%	9.05%	The greater of previous year's cap rate or the current interest rate plus 2.5 percent.
2007	7.63%	10.13%	10.13%	The greater of previous year's cap rate or the current interest rate plus 2.5 percent.
2008	7.09%	9.59%	9.86%	The average of the previous years' cap rate (10.13 percent) and the current interest rate plus 2.5 percent (9.59 percent).
2009	3.74%	6.24%	8.74%	The average of the previous two year's cap rates (10.13 and 9.86 percent) and the current interest rate plus 2.5 percent (6.24 percent).
2010	3.16%	5.66%	8.60%	The average of the previous three years' cap rates (10.13 percent, 9.86 percent and 8.74 percent) and the current interest rate plus 2.5 percent (5.66 percent).
2011	3.78%	6.28%	8.72%	The average of the previous four years' cap rates (10.13 percent, 9.86 percent, 8.74 percent and 8.60 percent) and the current interest rate plus 2.5 percent (6.28 percent).
2012	3.76%	6.26%	8.44%	The average of the previous four years' cap rates (9.86 percent, 8.74 percent, 8.60 percent and 8.72 percent) and the current interest rate plus 2.5 percent (6.26 percent).
2013	3.10%	5.60%	8.02%	The average of the previous four years' cap rates (8.74 percent, 8.60 percent, 8.72 percent and 8.44 percent) and the current interest rate plus 2.5 percent (5.60 percent).
2014	3.70%	6.20%	8%	The average of the previous four years' cap rates (8.60 percent, 8.72 percent, 8.44 percent and 8.02 percent) and the current interest rate plus 2.5 percent (6.20 percent).
2015	2.90%	5.40%	7.72%	The average of the previous four years' cap rates (8.72 percent, 8.44 percent, 8.02 percent and 8 percent) and the current interest rate plus 2.5 percent (5.40 percent).
2016	2.96%	5.46%	7.53%	The average of the previous four years' cap rates (8.44 percent, 8.02 percent, 8.00 percent and 7.72 percent) and the current interest rate plus 2.5 percent (5.46 percent).
2017	3.21%	5.71%	7.39%	The average of the previous four years' cap rates (8.02 percent, 8.00 percent, 7.72 percent and 7.53 percent) and the current interest rate plus 2.5 percent (5.71 percent).
2018	3.96%	6.46%	7.42%	The average of the previous four years' cap rates (8.00 percent, 7.72 percent, 7.53 percent and 7.39 percent) and the current interest rate plus 2.5 percent (6.46 percent).
2019	4.79%	7.29%	7.47%	The average of the previous four years' cap rates (7.72 percent, 7.53 percent, 7.39 percent and 7.42 percent) and the current interest rate plus 2.5 percent (7.29 percent).
2020	4.08%	6.58%	7.28%	The average of the previous four years' cap rates (7.53 percent, 7.39 percent, 7.42 percent and 7.47 percent) and the current interest rate plus 2.5 percent (6.58 percent).
2021	2.75%	5.25%	6.96%	The average of the previous four years' cap rates (7.39 percent, 7.42 percent, 7.47 percent, 7.28 percent) and the current interest rate plus 2.5 percent (5.25 percent).

Restricted-Use Timberland

To encourage reforestation of harvested lands and effective timberland management practices, the Texas Legislature added Subchapter H to Tax Code Chapter 23 to provide for restricted-use timberland appraisal beginning Jan. 1, 2000.[196] Timberland owners can apply for special use appraisal if they:

- Harvested and reforested by seedling plantings;
- Managed natural regeneration; or
- Provided roadway buffers where timberland harvest was restricted in order to protect critical wildlife habitats; or,
- Preserved special or unique sites and protect streams and other water bodies.[197]

Eligibility Requirements

Land can qualify as restricted-use timberland in either of the following conditions:

- Timber harvest is restricted in areas designated as an aesthetic management zone, critical wildlife habitat zone or streamside management zone;[198] or
- Timber is harvested and regenerated by plantings or natural regeneration.[199]

Aesthetic Management, Critical Wildlife Habitat and Streamside Management Zones

TFS adopted an administrative rule governing the requirements for land to qualify as being in one of the three zones.[200] Useful definitions included in the rule are:

Basal area – the cross-sectional area of a tree, in square feet, measured at 4-1/2 feet above the ground.

Public right-of-way – A United States or state highway, a county road, a farm-to-market road, other public maintained roads and public use areas such as public park, school, lake, cemetery and church.

Management plan – A written plan or a collection of written directives governing management of an applicant's timberland that the landowner has developed, written and implemented with or without professional assistance. The plan must use the forestry best management practice consistent with the agricultural and silvicultural nonpoint source pollution management program administered by the State Soil and Water Conservation Board under Agriculture Code Section 201.026, identifying specific management practices, including restrictions on harvest, for each of the types of zones included in the plan.

Aesthetic management zones are timberlands that are managed restrictively either because TFS determined they are special or unique (based on natural beauty, topography or historic significance) or they are timberlands along public rights-of-way.[201]

- **Special or unique area criteria**: The landowner must apply for this designation first from the TFS director and if granted, the landowner would then take the determination to the appraisal district. The TFS determination is conclusive and must be accepted by the chief appraiser or the ARB. The area could be unique due to archaeological sites, rare geological formations, scenic beauty, plant or animal communities or other attributes that suggest a special importance to society. Harvesting could be totally restricted or limited to an average of 50 square feet of basal area per acre in trees evenly distributed within the zone. The zone can be regenerated using different methods but must not adversely affect the special features in the zone. The landowner must comply with a management plan that addresses harvest restrictions assuring the ongoing aesthetic value of the zone.[202]

[196] Tex. S.B. 977, 76th Reg. (1999)

[197] Tex. Tax Code §§23.9801 and 23.9802

[198] Tex. Tax Code §23.9802(a)

[199] Tex. Tax Code §23.9802(b)

[200] 4 Texas Admin. Code §215.1

[201] Tex. Tax Code §§23.9801(1)(A) and (1)(B)

[202] Tex. Tax Code §23.9801(1)(B) and 4 Texas Admin. Code §215.5(b)

- **Public rights-of-ways criteria**: The buffers must be at least 100 feet but not more than 200 feet wide from the edge of the public rights-of-way, contain trees at least 10 years old or 35 feet tall and contain a tree density equaling 50 square feet of basal area per acre in trees evenly distributed within the zone. The landowner must comply with a management plan that addresses harvest restrictions, assuring the ongoing aesthetic value of the zone.[203]

Critical wildlife habitat zones are timberlands where harvest is restricted to protect the habitat of plant or animal species listed as endangered or threatened by the federal Endangered Species Act or listed as endangered by the Texas Parks and Wildlife Code Section 68.002.[204] The existence of the species and a plan to protect it must be documented by an agreement with a federal, state or private organization that is responsible for protecting the species.[205]

To qualify for the special appraisal, the landowner must provide at least three of the following seven benefits:

1. Habitat control;
2. Erosion control:
3. Predator control:
4. Providing supplemental supplies of water:
5. Providing supplemental supplies of food:
6. Providing shelters; or
7. Making census counts to determine population.[206]

Landowner must adhere to a management plan developed with input from an endangered specialist that addresses harvest restrictions and required activities.[207]

Streamside management zones protect water quality or preserve a waterway, including a lake, river, stream or creek.[208] Texas A&M Forest Service Rule 215.1 identifies these bodies of water as intermittent and perennial streams, rivers, lakes, sloughs, ponds, creeks, reservoirs, watersheds or wetlands.

Intermittent streams flow only during wet periods of the year, 30 percent to 90 percent of the time, in a continuous, well-defined channel.[209]

Perennial streams flow through most of the year in a well-defined channel.[210]

Ephemeral streams, which are excluded, only flow during short periods following precipitation in low areas or in channels that are not well-defined.[211]

To qualify as a streamside management zone, the landowner must restrict harvest based on a management plan conforming to the agricultural and silvicultural non-point source pollution management program developed by the Texas State Soil and Water Conservation Board.[212] Texas A&M Forest Service rules specify that the protection is provided by restricting harvest in buffers 50 feet from each bank of a waterway or body that contains water at least 30 percent of the year. The buffers could be as wide as 200 feet from each bank depending on slope, soil, cover type and proximity to public water supplies. Three hundred (300) well-spaced, 10-year old trees on average per acre or an average of 50 feet of basal area per acre must be maintained in the streamside management zones.[213]

Lands qualifying for restricted-use timberland appraisal due to the existence of these zones continues to qualify for the special appraisal if the qualifications are met.[214]

[203] 4 Texas Admin. Code §215.5(a)
[204] 16 U.S.C. §§1531-1544 and Tex. Tax Code §23.9801(2)
[205] 4 Texas Admin. Code §215.9(1)
[206] 4 Texas Admin. Code §215.9(4) and Tex. Tax Code §23.9801(2)
[207] 4 Texas Admin. Code §215.9(5)
[208] Tex. Tax Code §23.9801(5)
[209] 4 Texas Admin. Code §215.1(5)
[210] 4 Texas Admin. Code §215.1(6)
[211] 4 Texas Admin. Code §215.1 (4)
[212] Tex. Tax Code §23.9801(3) and (5)
[213] 4 Texas Admin. Code §§215.1 and 215.13
[214] Tex. Tax Code §§23.9801 and 23.9802(a)

Harvested and Regenerated Timberlands

Lands appraised under Tax Code Chapter 23, Subchapter E, Appraisal of Timberland, at the time timber was harvested and that are being regenerated to the degree generally accepted in the area for commercial timberland and with the intent to produce income qualify for restricted-use timberland appraisal.[215] TFS has *recommended guidelines* for determining adequate reforestation that are useful to chief appraisers.[216]

These guidelines recognize that reforestation is a process that begins with final harvest. TFS suggests that regeneration occurs when the landowner makes substantial effort to begin the process (i.e., site preparation, purchase of seedlings, hiring contractors). Land qualifying for restricted use timberland is given the special appraisal for only 10 years after harvest, allowing landowners the maximum benefit.

Final harvest may include clear cut, seed tree or shelter wood harvests but would not include partial harvest, thinning to reduce stocking or single-tree selection. After harvest, the land can be regenerated by planting tree seedlings or by natural regeneration.[217] TFS recommends that adequate regeneration has occurred when at least 300 well-distributed, desirable seedlings per acre are free to grow within two years of being granted the special appraisal. It is possible that drought and other natural forces could delay reforestation beyond two years. Chief appraisers must exercise judgment in instances when the first or possibly successive seedling plantings are unsuccessful due to weather conditions. The landowner should demonstrate continued efforts to establish new trees.

Seed tree and shelter wood harvests allow for natural regeneration. In a seed tree harvest, only a few carefully selected, high-quality trees remain to provide seed for reforestation. A shelter wood harvest is a series of harvests in which mature trees are removed to allow early growth of new seedlings under the partial shade and protection of the remaining older trees.[218]

In addition to the 300-tree criteria discussed above, TFS recommends slightly different guidelines depending on timberland's proximity to waterways. On lowlands adjacent to streams and rivers (bottomlands), TFS recommends natural regeneration of hardwoods including oak, sweetgum and ash. Planting hardwoods or pines is an option, depending on site conditions. TFS recommends to the land be naturally regenerated to hardwoods by cutting all residual standing trees. For uplands, TFS recommends natural regeneration be accomplished by leaving at least eight well-spaced, 16-inch diameter (at breast height) pine trees per acre. Chemical or mechanical site preparation or chemical release is recommended. Site preparation may not be necessary in areas where the harvested stand was pine and there is limited vegetation to compete with the seedlings.

Timberlands receiving restricted-use timberland appraisal due to harvest and regeneration cease to qualify on the 10th anniversary of the date the timber was harvested.[219] For example, a land tract received timberland special appraisal for the 2008 tax year. In June 2009, a final harvest of pine trees took place. In February 2010, the landowner completed site preparation, purchased seedlings and hired a contractor to plant the seedlings. The chief appraiser determined that the landowner made substantial efforts toward reforestation and that the land qualified for restricted-use timberland appraisal in February 2010. Beginning with the 2010 tax year and ending with the 2019 tax year, the land is appraised as restricted use timberland if it continues to qualify. Beginning in the 2020 tax year, the land is appraised as timberland if it continues to qualify.

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[215] Tex. Tax Code §23.9802(b)

[216] Texas A&M Forest Service, *A Guide to the Timberland Property Tax Incentive Program: Recommended Reforestation Incentive Eligibility Guidelines and Forest Zone Determination Rules*, (Revised: February 2015) *https://tfsweb.tamu.edu/uploadedFiles/TFSMain/Manage_Forest_and_Land/Landowner_Assistance(6)/Reforestation_guideline.pdf* (Last Visited: June 29, 2021)

[217] Tex. Tax Code §§23.9801(4) and 23.9802(b)

[218] Stephen F. Austin University, Silviculture Textbook *http://144.96.206.19/forestryfaculty/files/stovall/silviculture/index.php/silviculture-textbook-sp-9418* (Last visited June 29, 2021)

[219] Tex. Tax Code §23.9802(c)

Application

The application requirements for restricted-use timberland are similar to those for timberland appraisal. The differences are noted in **Exhibit 12**.

EXHIBIT 12

Differences Between Timberland and Restricted-Use Timberland Applications

Element	Timberland	Restricted-Use Timberland
Application Deadline	Before May 1, with possible 60-day extension for good cause.[220]	Before May 1, with possible 15-day extension for good cause.[221]
Late Application	Before ARB approves appraisal records, with penalty if approved.[222]	No late application. A valid application must be filed or a request for extension made before May 1.[223]
Exceptions to One-Time Application	New application required if:[224] • Eligibility ends. • Ownership changes. • Chief appraiser requires new application.	New application required if:[225] • Eligibility ends. • Ownership changes. • Chief appraiser requires new application. • Standing timber is harvested.
Penalty for Failure to Provide Notice of Eligibility Termination	Back assessment for erroneously allowed special appraisal in any of the five preceding years.[226]	Back assessment for erroneously allowed special appraisal in any of the 10 preceding years.[227]

The landowner's responsibility to notify the chief appraiser of eligibility or ownership changes is the same for restricted-use timberland and other timberland except that an owner of restricted-use timberland must notify the chief appraiser if standing timber is harvested.[228]

Chief Appraiser's Action

Chief appraisers must review each application. Chief appraisers can approve applications and grant restricted-use timberland appraisals, disapprove the application and ask for additional information or deny applications. These actions must follow the same procedures as for timberland with one notable exception relating to zone determinations.[229]

The chief appraiser must make one of the three actions in the paragraph above as soon as practicable but not later than 90 days after the later of the following two dates:

- Date the applicant's land is first eligible for appraisal as timberland; or
- The date the applicant provides the information necessary.[230]

If an application is denied, the chief appraiser must notify the applicant in writing no later than the fifth date of their determination. The notice must state and fully explain each reason for the denial and the procedures for protesting it.[231]

The appraisal records are turned over to the appraisal district's ARB for review and determination of protests.[232] The ARB is appointed to act independently of the chief appraiser, and to make fair and impartial determinations. The deadline for the chief appraiser to submit the appraisal records to the ARB is May 15 or as soon afterward as possible.[233]

[220] Tex. Tax Code §23.75(d)
[221] Tex. Tax Code §23.9804(e)
[222] Tex. Tax Code §23.751
[223] Tex. Tax Code §23.9804(e) and (f)
[224] Tex. Tax Code §23.75(e)
[225] Tex. Tax Code §23.9804(f)
[226] Tex. Tax Code §23.75(j)
[227] Tex. Tax Code §23.9804(k)
[228] Tex. Tax Code §§23.75(h) and 23.9804(i)
[229] Tex. Tax Code §§23.79, 23.9805, and 23.9806
[230] Tex. Tax Code §23.9805(a)
[231] Tex. Tax Code §23.9805(d)
[232] Tex. Tax Code §23.9805(d)
[233] Tex. Tax Code §25.22(a)

Property owners who were denied restricted-use productivity appraisal may file a protest with the ARB.[234] Taxing units that believe special appraisal was erroneously granted to any property owner may seek to remove that special appraisal by filing a challenge with the ARB.[235] The ARB hears these protests and determines whether land was improperly granted special appraisal.[236]

Additional Information

The chief appraiser may request additional information to determine whether a property qualifies for restricted-use timberland productivity appraisal.[237] This request must be delivered via a written notice to the applicant as soon as practicable but not later than the 30th day after the date the application was filed with the appraisal district. The notice must specify the additional information the applicant must provide so the chief appraiser can make a determination. The applicant must provide the additional information not later than the 30th day from the date of the request or the application will be denied.[238] The chief appraiser may extend the deadline for good cause to allow additional information, but not for more than 15 days.[239]

Information contained in income statements, income tax returns, land lease rates and lease agreements are not necessary to determine whether the land qualifies. If the chief appraiser asks a property owner for this type of information, the request should clearly state that the owner is not required to give the information to qualify for restricted-use productivity appraisal.

Denial Based on Zone Determination

Before a chief appraiser can deny an application for restricted-use timberland appraisal based on aesthetic management, critical wildlife habitat or streamside management zones, the TFS must determine the validity of the zone.[240] TFS adopted an administrative rule governing the procedures for chief appraisers requesting zone determinations.[241] The request must be made on a TFS-prescribed form available from its office.[242] The request for zone determination must include

- A copy of the application for restricted-use timberland appraisal;
- Maps showing the site location and zone location if its location or acreage is contested;
- Information documenting the case if the minimum 50 square feet per acre of basal area is contested; and
- Other information in support of the district position.[243]

If the chief appraiser received the application prior to April 1, the zone determination request must be submitted no later than 30 days after receipt of the application. If the chief appraiser received the application after April 1, the zone determination request must be submitted no later than 15 days after receipt of the application.[244] The chief appraiser must also deliver to the applicant and each taxing unit in which the land is located a notice that a zone determination was requested and instructions for the applicant and taxing unit to submit evidence.[245] These notices and instructions are TFS-prescribed forms available from its office.[246]

The TFS' determination is conclusive as to the type, size and location of the zone.[247] The property owner or the chief appraiser may not protest the TFS's determination to the ARB or appeal it to district court.[248]

Appraisal

The appraised value of qualified restricted-use timberland is one-half of the value that would have been determined for the land under Tax Code Section 23.73(a).[249] This section of the Tax Code refers to appraisal of qualified timberland, which is discussed in the *Appraisal of Timberland* section this manual. For example, a 100-acre tract of land in Newton County qualifies as timberland and is classified as Hardwood Forest Soil Type II. The landowner applies for restricted-use timberland appraisal after establishing a 10-acre streamside management zone, and the chief appraiser approves the application. Based on the district's schedule of timberland values

[234] Tex. Tax Code §41.41(a)(5)
[235] Tex. Tax Code §41.03(a)(4)
[236] Tex. Tax Code §41.01(a)(5)
[237] Tex. Tax Code §23.9805(b)
[238] Tex. Tax Code §23.9805(b)
[239] Tex. Tax Code §23.9805(b)
[240] Tex. Tax Code §23.9806(a)
[241] Tex. Tax Code §23.9806(e)
[242] 4 Texas Admin. Code §215.17(a)(2)
[243] 4 Texas Admin. Code §215.17
[244] 4 Texas Admin. Code §215.17(a)(1)
[245] Tex. Tax Code §23.9806(b)
[246] 4 Texas Admin. Code §215.17
[247] Tex. Tax Code §23.9806(c)
[248] Tex. Tax Code §23.9806(f)
[249] Tex. Tax Code §23.9803(a)

developed according to the Appraisal of Timberland section, Hardwood Forest Soil Type II has a per-acre timberland productivity value of $100.00. The per-acre value of the 10 acres qualified for restricted-use timberland appraisal is $50 ($100.00 ÷ 2 = $50). The appraised value of these 10 acres continues to be one-half of the value determined for Hardwood Forest Soil Type II for as long as the land qualifies as restricted-use timberland.

Another example is a final harvest occurs on 100 acres of a 1,000-acre tract that was classified as Mixed Forest Soil Type II. The landowner prepares the 100 acres for planting and purchases pine seedlings. A valid application for restricted-use timberland is filed and approved by the chief appraiser. Because the 100 acres are now planted in pine and are being managed as a pine plantation, the tract is classified as Pine Forest Soil Type II. Based on the timberland values developed by the chief appraiser, Pine Forest Soil Type II has a per acre value of $386. The appraised value of the 100 acres qualified for restricted-use timberland appraisal is $193 per acre ($386 ÷ 2 = $193) and continues to be one-half of the value of Pine Forest Soil Type II for 10 years from the date of harvest.[250]

Maximum Value

The appraised value of land qualified as restricted-use timberland may not exceed the lesser of the market value of the land or the appraised value for the year preceding the first year the land qualified for appraisal as restricted-use timberland.[251]

1978 Value Does Not Apply

In 1978, Texas voters adopted a constitutional amendment providing for taxable values of timberlands to be based on productivity values rather than market values. So that the taxing units do not lose revenues, the law provided that a parcel's timberland productivity value could not be less than its 1978 market value. This minimum value, found in Tax Code Section 23.78, does not apply to restricted-use timberland.

Tax Code Section 23.78, relating to the minimum taxable value of timberland, states: "The taxable value of qualified timber land appraised as provided by this subchapter may not be less than the appraised value of that land for the taxing unit in the 1978 tax year. . ." The subchapter referenced is Subchapter E (Appraisal of Timber Land). Restricted-use timberland is based on Subchapter H, which does not set a minimum value.

Change of Use and Rollback Procedures

Changes of use trigger rollback taxes.[252] The previous section on rollback procedures includes a thorough discussion of reasons for imposing rollback taxes, what constitutes a change of use, the procedures for notifying landowners of the determination of a use change and calculating the rollback tax. For restricted-use timberland that qualifies because the land is being regenerated for timber production with intent to produce income, the harvesting of timber before the 10th anniversary of the previous harvest constitutes a use change.[253]

There are slight differences in calculating the tax for restricted-use timberland. If land qualifying for restricted-use timberland appraisal changes to a use that qualifies as timberland, appraised under Subchapter E, the land receives a rollback tax. The additional tax is based on the difference between the restricted-use timber value and the timber value for the three preceding years.[254] If the change is to a use that does not qualify as timberland, the additional tax is based on the difference between the restricted-use timber value and the land's market value for the preceding three years.[255]

There are fewer exceptions to the rollback sanctions for restricted-use timberland. The exceptions are if the change of use occurs as a result of:

- Sale for right-of-way;
- Condemnation; or
- Change in law.[256]

Taxes for the Year Use Changes

Tax Code §23.9807 imposes a rollback tax for each of the three years preceding the year in which restricted-use timberland use of the property ends.[257] In *Bexar Appraisal District*

[250] Tex. Tax Code §23.9802(b) and (c)

[251] Tex. Tax Code §23.9803(b)

[252] Tex. Tax Code §23.9807

[253] Tex. Tax Code §§23.9802(b) and (c), 23.9807(g)

[254] Tex. Tax Code §23.9807(a)

[255] Tex. Tax Code §23.9807(b)

[256] Tex. Tax Code §23.9807(h)

[257] HB 3833, 87th Leg., changed the rollback years from five preceding years to three preceding years. Consult your legal counsel for specific situations.

v. Sivage Investments, Ltd. (*Sivage*), the owner agreed that rollback taxes for the five years preceding the end of agricultural use were proper. The appeal arose, however, from "a dispute involving ad valorem taxes that were imposed for the year the use changed for property that previously qualified as open-space land."[258] The court of appeals held in *Sivage* that Tax Code "section 23.55 does not authorize the district to reappraise the land at the higher market value for the year the change of use occurs."[259]

The courts have also addressed the imposition of taxes for the year of a change in *McKinney Millennium, LP v. Collin Central Appraisal District* (*McKinney*)[260] In *McKinney*, the question was whether the tax code authorized the imposition of tax in the year of a change of use. The court held that "CCAD failed to establish as a matter of law that it had the authority to assess additional taxes on the property in the 'change of use' year."[261] Even though these cases dealt with 1-d-1, they provide guidance for the imposition of rollback taxes for restricted-use timberland use valuation. For questions about the *Sivage* or *McKinney* cases or the issues they address, see legal counsel.

Cessation of Timberland Production

Circumstances under which the land's eligibility for appraisal as restricted-use timberland does not end when the land ceases to be devoted principally to timber or forest products to the area's generally accepted degree of intensity may include the following:

Portions of Property

Chief appraisers cannot consider the purpose for which a portion of a parcel of land qualifies if the remainder of the parcel of land qualifies for appraisal as timberland is:

- Used to produce timber or forest products, including a road, right-of-way, buffer area or firebreak; or
- Subject to a right-of-way that was taken through the exercises of the power of eminent domain.[262]

Oil and Gas Operations on Land

Land's eligibility for restricted-use timberland appraisal does not end because a lessee under an oil and gas lease begins conducting oil and gas operations over which the Texas Railroad Commission (RRC) has jurisdiction; however, the portion of the land on which oil and gas operations are not being conducted must otherwise continue to qualify for appraisal.[263]

Pad sites, oil field roads, electric lines to oil and gas operations, pipelines and tank batteries are activities attributable to oil and gas operations under the RRC's jurisdiction. Oil and gas operations under RRC's jurisdiction can be found on its website.

[258] *Bexar Appraisal District v. Sivage Investments, Ltd.*, 04-14-00227-CV, 2014 WL 6475369 (Tex. App.—San Antonio Nov. 19, 2014, no pet.) (mem. op.).

[259] *Bexar Appraisal District v. Sivage Investments, Ltd.*, 04-14-00227-CV, 2014 WL 6475369 (Tex. App.—San Antonio Nov. 19, 2014, no pet.) (mem. op.).

[260] *McKinney Millennium, LP v. Collin Cent. Appraisal Dist.*, 599 S.W.3d 57 (Tex. App.—Dallas 2020, pet. denied).

[261] *McKinney Millennium, LP v. Collin Cent. Appraisal Dist.*, 599 S.W.3d 57 (Tex. App.—Dallas 2020, pet. denied).

[262] Tex. Tax Code §23.9802(d) and (e)

[263] Tex. Tax Code §23.765

APPENDIX A:
Legally Required Sources

Though the following sources provide information on which to base determinations, the chief appraiser bears ultimate responsibility for developing degree of intensity standards and determining timberland productivity value.

United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS)

The NRCS is the federal agency charged with inventorying and classifying the nation's soils. This agency has detailed soil surveys of Texas timber-producing counties that show the potential productivity and site index of common trees in each soil series that is suitable for growing commercial trees. This information may be used to generate soil productivity maps.

USDA Forest Service

The Forest Service is a branch of the USDA. The USDA Forest Service's Forest Inventory and Analysis (FIA) includes voluminous information collected by Texas A&M Forest Service about average timber growth and forest characteristics in East Texas timber counties. The USDA Forest Service publishes the results of its FIA inventory.

Texas A&M Forest Service (TFS)

The Texas A&M Forest Service (TFS) is a state agency with branch offices throughout the state's timber region. TFS foresters help timber growers prepare management plans, giving priority to those with long-term timber production goals who are interested in using approved management practices, including cost-sharing. TFS headquarters are in College Station, where the agency publishes:

- A bimonthly report of timber stumpage prices, *Texas Timber Price Trends*;
- An annual report of timber harvests, *Harvest Trends*, that shows harvest information for each product and for the timber-producing region in East Texas; and
- Data about timber growth, developed in cooperation with the USDA Forest Service.

Universities and Colleges

The Arthur Temple College of Forestry and Agriculture at Stephen F. Austin State University in Nacogdoches, the Department of Ecology and Conservation Biology at Texas A&M University in College Station and other Texas colleges of forestry and universities with forest science departments often have research-based information unavailable from other sources.

APPENDIX B:
Figures and Tables

The numbers and figures in **Appendix B** tables are hypothetical and are examples only. Chief appraisers should develop their own costs and values specific to their district.

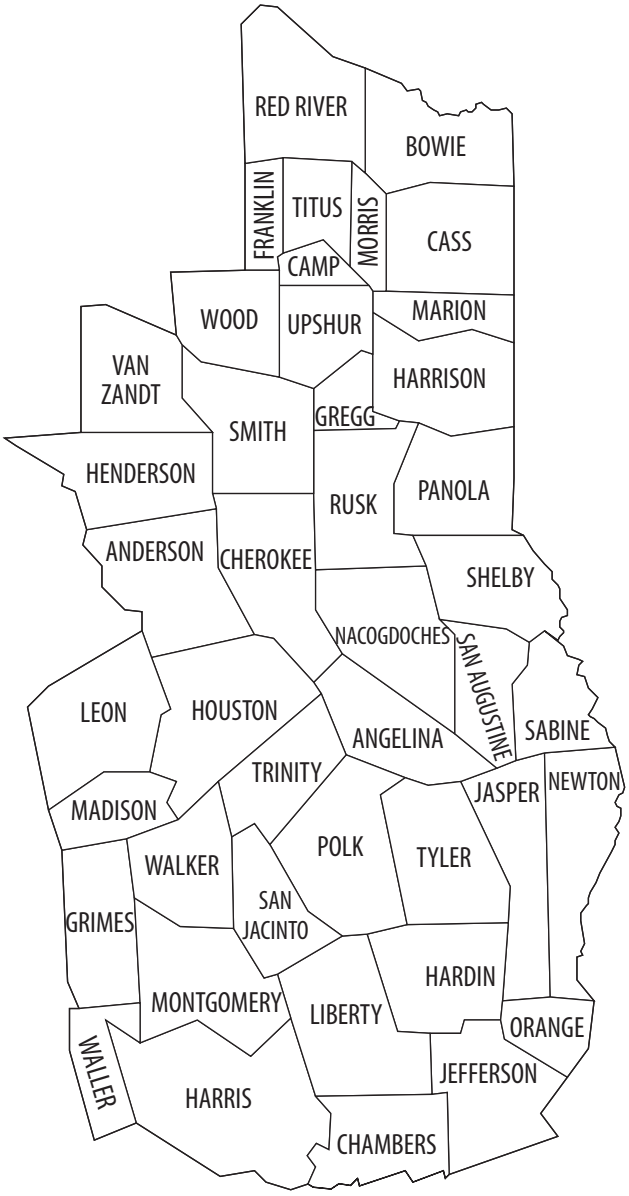

TABLE 1

Net Average Annual Growth Per Acre by Forest Type and Site Class for Private Timberland

Forest Type	Site Class	Number of Plots	Average Large Pine Sawtimber Growth/Acre (Board Feet)*	Average Small Pine Sawtimber Growth/Acre (Board Feet)*	Average Hardwood Sawtimber Growth/Acre (Board Feet)*	Average Pine Pulpwood Growth/Acre (Cubic Feet)*	Average Hardwood Pulpwood Growth/Acre (Cubic Feet)*
Pine	120 +	209	341.29	99.75	21.91	28.74	4.31
	85 - 119	336	257.67	70.42	16.92	31.31	4.14
	50 - 84	151	175.04	67.84	5.49	25.92	3.91
	< 50	8	147.11	9.27	7.05	34.67	1.10
Mixed	120 +	52	177.79	26.91	90.91	6.16	6.98
	85–119	112	130.87	19.78	61.91	7.86	8.24
	50–84	75	98.64	21.59	31.87	7.26	7.92
	< 50	8	15.35	12.78	31.79	5.62	2.88
Hardwood	120 +	100	63.96	7.82	135.16	2.60	7.52
	85–119	260	32.71	7.81	102.25	2.25	8.53
	50–84	193	15.33	6.06	60.83	1.21	6.32
	< 50	60	12.84	1.34	47.76	0.94	5.01

**Board feet are expressed in terms of International 1/4 inch log rule.*
Source: Texas A&M Forest Service, from the U.S. Department of Agricultural Forest Service Survey of Texas Timber

TABLE 2

Calculation of Average Annual Growth, Per Acre, by Forest Type and Forest Product

FOREST TYPE: PINE

		Large Pine Sawtimber		Small Pine Sawtimber		Hardwood Sawtimber		Pine Pulpwood		Hardwood Pulpwood	
Site Class	Number of Plots	Average Growth/Acre (board feet)*	Total Growth per Site Class	Average Growth/Acre (board feet)*	Total Growth per Site Class	Average Growth/Acre (board feet)*	Total Growth per Site Class	Average Growth/Acre (cubic feet)*	Total Growth per Site Class	Average Growth/Acre (cubic feet)*	Total Growth per Site Class
120 +	209	341.29	71,435.41	99.75	20,878.67	21.91	4,585.98	28.74	6,015.57	4.31	902.13
85-119	336	257.67	86,530.74	70.42	23,648.44	16.92	5,682.07	31.31	10,514.52	4.14	1,390.29
50-84	151	175.04	26,354.02	67.84	10,213.99	5.49	826.57	25.92	3,902.52	3.91	588.69
<50	8	147.11	1,106.27	9.27	69.71	7.05	53.02	34.67	260.72	1.10	8.27
Totals	703		185,426.44		54,810.81		11,147.64		20,693.33		2,889.38
			÷ 703.21		÷ 703.21		÷ 703.21		÷ 703.21		÷ 703.21
			= 263.69 bd. ft.		= 77.94 bd. ft.		= 15.85 bd. ft.		= 29.43 cu. ft.		= 4.11 cu. ft.

FOREST TYPE: MIXED

		Large Pine Sawtimber		Small Pine Sawtimber		Hardwood Sawtimber		Pine Pulpwood		Hardwood Pulpwood	
Site Class	Number of Plots	Average Growth/Acre (board feet)*	Total Growth per Site Class	Average Growth/Acre (board feet)*	Total Growth per Site Class	Average Growth/Acre (board feet)*	Total Growth per Site Class	Average Growth/Acre (cubic feet)*	Total Growth per Site Class	Average Growth/Acre (cubic feet)*	Total Growth per Site Class
120 +	52	177.79	9,200.63	26.91	1,392.59	90.91	4,704.59	6.16	318.78	6.98	361.22
85-119	112	130.87	14,594.62	19.78	2,205.87	61.91	6,904.20	7.86	876.55	8.24	918.92
50-84	75	98.64	7,349.67	21.59	1,608.67	31.87	2,374.63	7.26	540.94	7.92	590.12
<50	8	15.35	127.71	12.78	106.33	31.79	264.49	5.62	46.76	2.88	23.96
Totals	246		31,272.63		5,313.46		14,247.91		1,783.03		1,894.22
			÷ 246.1		÷ 246.1		÷ 246.1		÷ 246.1		÷ 246.1
			= 127.07 bd. ft.		= 21.59 bd. ft.		= 57.89 bd. ft.		= 7.25 cu. ft.		= 7.70 cu. ft.

FOREST TYPE: HARDWOOD

		Large Pine Sawtimber		Small Pine Sawtimber		Hardwood Sawtimber		Pine Pulpwood		Hardwood Pulpwood	
Site Class	Number of Plots	Average Growth/Acre (board feet)*	Total Growth per Site Class	Average Growth/Acre (board feet)*	Total Growth per Site Class	Average Growth/Acre (board feet)*	Total Growth per Site Class	Average Growth/Acre (cubic feet)*	Total Growth per Site Class	Average Growth/Acre (cubic feet)*	Total Growth per Site Class
120 +	100	63.96	6,425.42	7.82	785.60	135.16	13,578.17	2.60	261.20	7.52	755.46
85-119	260	32.71	8,492.82	7.81	2,027.79	102.25	26,548.19	2.25	584.19	8.53	2,214.73
50-84	193	15.33	2,965.90	6.06	1,172.43	60.83	11,768.78	1.21	234.10	6.32	1,222.73
<50	60	12.84	776.18	1.34	81.00	47.76	2,887.09	0.94	56.82	5.01	302.85
Totals	614		18,660.32		4,066.82		54,782.23		1,136.31		4,495.77
			÷ 614.02		÷ 614.02		÷ 614.02		÷ 614.02		÷ 614.02
			= 30.39 bd. ft.		= 6.62 bd. ft.		= 89.22 bd. ft.		= 1.85 cu. ft.		= 7.32 cu. ft.

** Board feet are expressed in terms of International 1/4 inch log rule.*

TABLE 3

Average Annual Timber Growth, Measured in Terms of Forest Products, on an Average Acre of Timber, by Forest Type in Millions

Forest Type	Board Feet* per Acre per Year			Cubic Feet per Acre per Year	
	Large Pine Sawtimber	Small Pine Sawtimber	Hardwood Sawtimber	Pine Pulpwood	Hardwood Pulpwood
Pine	263.69	77.94	15.85	29.43	4.11
Mixed	127.07	21.59	57.89	7.25	7.70
Hardwood	30.39	6.62	89.22	1.85	7.32

** Million board feet are expressed in terms of International 1/4 inch log rule.*

TABLE 4

Calculation of the Weighted Conversion Factors Used to Change the Volume of Large Pine Sawtimber and Hardwood Sawtimber Measured in International 1/4-inch Log Rule to Doyle Log Rule

Diameter Class	Volume in Million bd. ft. International 1/4" Log Rule		Total Volume		Percent of Total Volume		Conversion Factor		Weighted Contribution
PINE									
11 - 12.9	5,258.7	÷	30,921.1	=	17.007%	x	0.49037	=	0.08340
13 - 14.9	5,202.7	÷	30,921.1	=	16.826%	x	0.52460	=	0.08827
15 - 16.9	5,077.2	÷	30,921.1	=	16.420%	x	0.59120	=	0.09708
17 - 18.9	4,294.9	÷	30,921.1	=	13.890%	x	0.65273	=	0.09066
19 - 20.9	3,538.4	÷	30,921.1	=	11.443%	x	0.70653	=	0.08085
21 - 28.9	6,110.1	÷	30,921.1	=	19.760%	x	0.81153	=	0.16036
29+	1,439.2	÷	30,921.1	=	4.654%	x	0.92181	=	0.04290
	30,921.1				100.00%				0.64352
Weighted Conversion Factor for Large Pine Sawtimber = 0.64352									
HARDWOOD									
11 - 12.9	2,470.2	÷	18,605.7	=	13.276%	x	0.46377	=	0.06157
13 - 14.9	2,878.9	÷	18,605.7	=	15.473%	x	0.52923	=	0.08189
15 - 16.9	2,633.8	÷	18,605.7	=	14.156%	x	0.59130	=	0.08370
17 - 18.9	2,488.4	÷	18,605.7	=	13.375%	x	0.64600	=	0.08640
19 - 20.9	2,126.7	÷	18,605.7	=	11.430%	x	0.69327	=	0.07924
21 - 28.9	4,639.9	÷	18,605.7	=	24.938%	x	0.78412	=	0.19554
29+	1,367.8	÷	18,605.7	=	7.351%	x	0.87323	=	0.06419
	18,605.7				100.00%				0.65253
Weighted Conversion Factor for Hardwood Sawtimber = 0.65253									

Volume Data from United States Forest Service, Forest Inventory and Analysis
Conversion Factors for International 1/4 Inch Log Rule to Doyle Log Rule from Mississippi State Study conducted by Thomas Matney
Conversion Factors for Doyle Log Rule to Tons from Texas A&M Forest Service

TABLE 5

Converting Sawtimber Volumes Measured in International 1/4-Inch Rule to Doyle Rule and Pulpwood Cubic Foot Volumes to Cords, by Forest Type

FOREST TYPE: PINE													
Forest Product	**MBF International 1/4" Rule***		**Weighted Doyle Conversion Factor****		**MBF Doyle Rule**		**MBF Conversion**		**Growth in Board Feet**		**Ton Conversion Factor**		**Growth In Tons**
Large Pine Sawtimber	263.69	x	0.64352	=	169.69	÷	1,000	=	0.16969	x	8.00	=	1.3575
Hardwood Sawtimber	15.85	x	0.65253	=	10.34	÷	1,000	=	0.01034	x	9.00	=	0.0931
			Cubic Feet*		**MBF International 1/4" Rule***		**Cord Conversion Factor**		**Growth in Cords**		**Ton Conversion Factor**		**Growth In Tons**
Small Pine Sawtimber					77.94	÷	500	=	0.15588	x	2.70		0.4209
Pine Pulpwood			29.43			÷	81	=	0.36333	x	2.70		0.9810
Hardwood Pulpwood			4.11			÷	80	=	0.05138	x	2.80		0.1439

FOREST TYPE: MIXED													
Forest Product	**MBF International 1/4" Rule***		**Weighted Doyle Conversion Factor****		**MBF Doyle Rule**		**MBF Conversion**		**Growth in Board Feet**		**Ton Conversion Factor**		**Growth In Tons**
Large Pine Sawtimber	127.07	x	0.64352	=	81.77	÷	1,000	=	0.08177	x	8.00	=	0.6542
Hardwood Sawtimber	57.89	x	0.65253	=	37.77	÷	1,000	=	0.03777	x	9.00	=	0.3399
			Cubic Feet*		**MBF International 1/4" Rule***		**Cord Conversion Factor**		**Growth in Cords**		**Ton Conversion Factor**		**Growth In Tons**
Small Pine Sawtimber					21.59	÷	500	=	0.04318	x	2.70	=	0.1166
Pine Pulpwood			7.25			÷	81	=	0.08951	x	2.70	=	0.2417
Hardwood Pulpwood			7.70			÷	80	=	0.09625	x	2.80	=	0.2695

FOREST TYPE: HARDWOOD													
Forest Product	**MBF International 1/4" Rule***		**Weighted Doyle Conversion Factor****		**MBF Doyle Rule**		**MBF Conversion**		**Growth in Board Feet**		**Ton Conversion Factor**		**Growth In Tons**
Large Pine Sawtimber	30.39	x	0.64352	=	19.56	÷	1,000	=	0.01956	x	8.00	=	0.1565
Hardwood Sawtimber	89.22	x	0.65253	=	58.22	÷	1,000	=	0.05822	x	9.00	=	0.5240
			Cubic Feet*		**MBF International 1/4" Rule***		**Cord Conversion Factor**		**Growth in Cords**		**Ton Conversion Factor**		**Growth In Tons**
Small Pine Sawtimber					6.62	÷	500	=	0.01324	x	2.70	=	0.0357
Pine Pulpwood			1.85			÷	81	=	0.02284	x	2.70	=	0.0617
Hardwood Pulpwood			7.32			÷	80	=	0.09150	x	2.80	=	0.2562

* *From Table 3*
** *From Table 4*

Conversion Factors for International 1/4 Inch Log Rule to Doyle Log Rule from Mississippi State Study conducted by Thomas Matney
Conversion Factors for Doyle Log Rule to Tons & for International 1/4" Rule to Cord from Texas A&M Forest Service, Timber Price Trends

TABLE 6

Average Annual Timber Growth, Measured in Tons Per Acre Per Year, by Forest Type and Forest Product

Forest Type	Large Pine Sawtimber	Small Pine Sawtimber	Hardwood Sawtimber	Pine Pulpwood	Hardwood Pulpwood
Pine	1.3575	0.4209	0.0931	0.9810	0.1439
Mixed	0.6542	0.1166	0.3399	0.2417	0.2695
Hardwood	0.1565	0.0357	0.5240	0.0617	0.2562

TABLE 7

Average Stumpage Prices Measured in Price Per Ton for Forest Products, 2015-2019

Year	Large Pine Sawtimber			Small Pine Sawtimber			Hardwood Sawtimber		
	Unweighted Average Prices	Weighted Average Prices	Average of Unweighted and Weighted Prices	Unweighted Average Prices	Weighted Average Prices	Average of Unweighted and Weighted Prices	Unweighted Average Prices	Weighted Average Prices	Average of Unweighted and Weighted Prices
2015	$35.29	$29.95	$32.62	$14.70	$14.53	$14.62	$39.82	$40.02	$39.92
2016	$29.35	$26.99	$28.17	$13.37	$12.70	$13.04	$37.54	$39.78	$38.66
2017	$26.43	$25.54	$25.99	$10.92	$9.75	$10.34	$27.80	$30.95	$29.38
2018	$23.91	$28.74	$26.33	$12.41	$13.80	$13.11	$29.96	$29.86	$29.91
2019	$26.57	$30.42	$28.50	$13.16	$14.74	$13.95	$35.41	$35.36	$35.39

Year	Pine Pulpwood			Hardwood Pulpwood		
	Unweighted Average Prices	Weighted Average Prices	Average of Unweighted and Weighted Prices	Unweighted Average Prices	Weighted Average Prices	Average of Unweighted and Weighted Prices
2015	$9.06	$9.39	$9.23	$14.40	$16.27	$15.34
2016	$8.94	$9.14	$9.04	$9.69	$10.62	$10.16
2017	$7.91	$7.91	$7.91	$8.71	$9.38	$9.05
2018	$6.95	$7.16	$7.06	$10.21	$9.81	$10.01
2019	$8.37	$9.95	$9.16	$13.77	$13.21	$13.49

Unweighted averages are arithmetic means of reported transactions.
Weighted averages are equal to the total value of reported transactions divided by the total volume of reported transactions.

Source: Texas A&M Forest Service

TABLE 8

Calculation of the Annual Average Gross Income of an Acre of Timber Growth, by Forest Type

PINE

	Sawtimber Growth (tons)												Pulp Growth (tons)							
Year		Large Pine*	x	Price**	+	Small Pine*	x	Price**	+	Hardwood*	x	Price**	+	Pine*		Price**	+	Hardwood*	x	Price**	=	Average Annual Gross Income
2015	(	1.3575	x	$32.62	)+(	0.4209	x	$14.62	)+(	0.0931	x	$39.92	)+(	0.9810	x	$9.23	)+(	0.1439	x	$15.34	) =	$65.41
2016	(	1.3575	x	$28.17	)+(	0.4209	x	$13.04	)+(	0.0931	x	$38.66	)+(	0.9810	x	$9.04	)+(	0.1439	x	$10.16	) =	$57.66
2017	(	1.3575	x	$25.99	)+(	0.4209	x	$10.34	)+(	0.0931	x	$29.38	)+(	0.9810	x	$7.91	)+(	0.1439	x	$9.05	) =	$51.43
2018	(	1.3575	x	$26.33	)+(	0.4209	x	$13.11	)+(	0.0931	x	$29.91	)+(	0.9810	x	$7.06	)+(	0.1439	x	$10.01	) =	$52.41
2019	(	1.3575	x	$28.50	)+(	0.4209	x	$13.95	)+(	0.0931	x	$35.39	)+(	0.9810	x	$9.16	)+(	0.1439	x	$13.49	) =	$58.78

MIXED

	Sawtimber Growth (tons)												Pulp Growth (tons)							
Year		Large Pine*	x	Price**	+	Small Pine*	x	Price**	+	Hardwood*	x	Price**	+	Pine*		Price**	+	Hardwood*	x	Price**	=	Average Annual Gross Income
2015	(	0.6542	x	$32.62	)+(	0.1166	x	$14.62	)+(	0.3399	x	$39.92	)+(	0.2417	x	$9.23	)+(	0.2695	x	$15.34	) =	$42.97
2016	(	0.6542	x	$28.17	)+(	0.1166	x	$13.04	)+(	0.3399	x	$38.66	)+(	0.2417	x	$9.04	)+(	0.2695	x	$10.16	) =	$38.01
2017	(	0.6542	x	$25.99	)+(	0.1166	x	$10.34	)+(	0.3399	x	$29.38	)+(	0.2417	x	$7.91	)+(	0.2695	x	$9.05	) =	$32.55
2018	(	0.6542	x	$26.33	)+(	0.1166	x	$13.11	)+(	0.3399	x	$29.91	)+(	0.2417	x	$7.06	)+(	0.2695	x	$10.01	) =	$33.34
2019	(	0.6542	x	$28.50	)+(	0.1166	x	$13.95	)+(	0.3399	x	$35.39	)+(	0.2417	x	$9.16	)+(	0.2695	x	$13.49	) =	$38.15

HARDWOOD

	Sawtimber Growth (tons)												Pulp Growth (tons)							
Year		Large Pine*	x	Price**	+	Small Pine*	x	Price**	+	Hardwood*	x	Price**	+	Pine*		Price**	+	Hardwood*	x	Price**	=	Average Annual Gross Income
2015	(	0.1565	x	$32.62	)+(	0.0357	x	$14.62	)+(	0.5240	x	$39.92	)+(	0.0617	x	$9.23	)+(	0.2562	x	$15.34	) =	$31.05
2016	(	0.1565	x	$28.17	)+(	0.0357	x	$13.04	)+(	0.5240	x	$38.66	)+(	0.0617	x	$9.04	)+(	0.2562	x	$10.16	) =	$28.30
2017	(	0.1565	x	$25.99	)+(	0.0357	x	$10.34	)+(	0.5240	x	$29.38	)+(	0.0617	x	$7.91	)+(	0.2562	x	$9.05	) =	$22.65
2018	(	0.1565	x	$26.33	)+(	0.0357	x	$13.11	)+(	0.5240	x	$29.91	)+(	0.0617	x	$7.06	)+(	0.2562	x	$10.01	) =	$23.26
2019	(	0.1565	x	$28.50	)+(	0.0357	x	$13.95	)+(	0.5240	x	$35.39	)+(	0.0617	x	$9.16	)+(	0.2562	x	$13.49	) =	$27.53

* *From Table 6*
** *From Table 7*

TABLE 9

Calculation of the Potential Growth of an Average Acre of Timber, East Texas

County	Number of Privately Owned Acres (Hundreds) by Site Class					
	165+	120-165	85-120	50-85	<50	All Classes
Anderson	15.7	70.6	155.8	117.5	15.7	375.3
Angelina	20.2	95.2	172.7	27.5	2.3	317.7
Bowie	11.3	22.6	118.1	67.3	11.2	230.6
Camp	2.8	8.0	17.9	11.7	0.0	40.5
Cass	14.9	92.2	216.8	88.1	13.7	425.8
Chambers	0.0	1.8	7.0	17.1	3.0	28.9
Cherokee	13.4	95.2	193.2	89.7	3.7	395.2
Franklin	2.1	1.2	28.3	36.6	14.9	83.1
Gregg	3.3	11.9	53.4	17.6	0.0	86.2
Grimes	0.0	8.8	27.6	79.1	28.8	144.3
Hardin	12.7	82.7	194.1	142.3	15.1	446.8
Harris	3.6	14.8	62.0	62.8	8.8	152.1
Harrison	13.0	93.7	207.9	51.6	3.1	369.2
Henderson	0.7	4.5	36.4	71.8	68.7	182.1
Houston	4.1	46.5	156.1	96.1	9.3	312.1
Jasper	28.3	91.4	183.5	151.5	13.2	468.0
Jefferson	4.3	10.7	25.0	18.2	7.2	65.4
Leon	0.0	6.7	64.0	135.2	94.5	300.5
Liberty	21.7	61.2	130.3	127.6	22.8	363.6
Madison	2.0	2.3	24.0	34.3	10.1	72.7
Marion	4.7	52.1	114.3	31.0	1.2	203.4
Montgomery	5.2	48.6	166.5	90.4	24.7	335.4
Morris	1.2	7.9	26.4	21.5	0.6	57.6
Nacogdoches	27.4	132.0	199.2	35.0	4.3	397.9
Newton	21.4	117.9	226.6	151.4	6.5	523.8
Orange	2.5	21.6	42.5	35.6	4.4	106.6
Panola	19.4	108.3	187.1	41.9	2.4	359.1
Polk	38.9	113.7	227.5	136.9	11.9	528.9
Red River	4.3	12.3	118.5	159.1	30.2	324.4
Rusk	16.9	83.1	145.1	79.7	6.1	330.9
Sabine	14.2	67.8	102.0	8.2	0.0	192.1
San Augustine	16.7	63.8	112.7	6.1	1.0	200.4
San Jacinto	8.6	41.5	103.3	58.9	10.5	222.8
Shelby	24.6	76.0	134.3	25.1	0.0	259.9
Smith	4.2	36.5	123.7	70.5	12.6	247.6
Titus	0.0	12.0	39.3	37.6	9.5	98.4
Trinity	20.9	61.8	122.6	57.0	3.9	266.3
Tyler	16.1	104.8	219.4	143.7	8.7	492.8
Upshur	8.2	37.1	106.0	47.5	5.7	204.6
Van Zandt	0.0	0.0	48.5	56.3	34.7	139.5
Walker	8.1	45.2	117.4	79.1	12.0	261.7
Waller	0.6	3.2	27.9	25.6	11.7	69.1
Wood	0.2	24.2	128.4	61.1	13.7	227.5
All Counties	**438.6**	**2,093.6**	**4,913.1**	**2,902.6**	**562.6**	**10,910.6**

Concluded on the following page

TABLE 9

Calculation of the Potential Growth of an Average Acre of Timber, East Texas (concluded)

	Potential Cubic Feet of Growth x Number of Acres (Hundreds)					
Growth Potentials	**163**	**163**	**123**	**85**	**60**	
County / Soil Type	**165+**	**120-165**	**85-120**	**50-85**	**<50**	**Total**
Anderson	2,560.0	11,502.6	19,160.8	9,986.7	943.4	44,153.5
Angelina	3,288.6	15,510.2	21,237.5	2,334.0	136.8	42,507.1
Bowie	1,848.7	3,688.6	14,529.3	5,718.9	674.4	26,460.0
Camp	449.9	1,312.1	2,206.0	995.8	0.0	4,963.7
Cass	2,424.2	15,030.8	26,665.6	7,491.9	824.1	52,436.5
Chambers	0.0	289.7	861.8	1,453.4	179.2	2,784.1
Cherokee	2,181.4	15,519.5	23,757.6	7,627.8	223.2	49,309.5
Franklin	339.0	197.9	3,485.1	3,106.8	895.2	8,024.1
Gregg	537.0	1,935.8	6,562.2	1,498.7	0.0	10,533.7
Grimes	0.0	1,435.7	3,390.8	6,726.4	1,728.1	13,281.0
Hardin	2,076.3	13,472.3	23,873.8	12,093.2	903.1	52,418.6
Harris	593.5	2,410.0	7,627.3	5,342.1	530.7	16,503.7
Harrison	2,111.4	15,275.7	25,567.9	4,386.8	184.3	47,526.0
Henderson	117.4	741.0	4,471.6	6,100.6	4,122.7	15,553.3
Houston	664.5	7,586.7	19,194.8	8,169.5	560.6	36,176.0
Jasper	4,618.6	14,893.2	22,573.4	12,879.8	792.6	55,757.7
Jefferson	707.4	1,743.3	3,069.0	1,550.5	431.3	7,501.5
Leon	0.0	1,096.8	7,874.5	11,491.6	5,672.8	26,135.7
Liberty	3,536.2	9,979.2	16,029.1	10,845.5	1,369.1	41,759.2
Madison	332.5	368.5	2,955.3	2,913.9	603.5	7,173.7
Marion	773.8	8,500.0	14,064.5	2,633.9	72.0	26,044.2
Montgomery	855.0	7,914.0	20,478.2	7,681.3	1,483.1	38,411.7
Morris	198.3	1,284.2	3,248.2	1,828.0	36.0	6,594.7
Nacogdoches	4,474.2	21,508.3	24,496.9	2,976.7	259.2	53,715.2
Newton	3,482.7	19,222.6	27,874.9	12,865.2	391.5	63,836.9
Orange	404.2	3,526.4	5,231.2	3,024.8	261.3	12,447.9
Panola	3,155.4	17,656.6	23,018.9	3,559.8	141.6	47,532.2
Polk	6,336.9	18,532.0	27,979.9	11,638.9	714.3	65,202.0
Red River	705.0	2,005.1	14,573.8	13,519.3	1,812.5	32,615.5
Rusk	2,754.0	13,549.4	17,841.3	6,776.8	364.8	41,286.3
Sabine	2,316.2	11,049.2	12,542.4	693.4	0.0	26,601.2
San Augustine	2,730.1	10,402.7	13,864.0	516.7	62.4	27,575.9
San Jacinto	1,395.9	6,772.5	12,705.6	5,007.0	628.3	26,509.2
Shelby	4,012.1	12,384.7	16,513.3	2,132.0	0.0	35,042.1
Smith	688.3	5,947.3	15,219.0	5,994.1	756.8	28,605.4
Titus	0.0	1,962.5	4,829.4	3,196.4	568.1	10,556.4
Trinity	3,399.8	10,075.4	15,084.2	4,848.3	236.0	33,643.8
Tyler	2,631.8	17,075.8	26,989.5	12,213.7	524.7	59,435.5
Upshur	1,343.0	6,053.9	13,036.5	4,033.8	344.1	24,811.2
Van Zandt	0.0	0.0	5,967.9	4,782.4	2,083.8	12,834.2
Walker	1,325.2	7,371.0	14,434.3	6,721.9	717.9	30,570.3
Waller	102.6	525.8	3,437.7	2,173.6	701.8	6,941.5
Wood	26.1	3,942.0	15,789.9	5,191.0	823.3	25,772.3
All Counties	**71,497.2**	**341,251.0**	**604,314.9**	**246,722.8**	**33,758.4**	**1,297,544.3**

1,297,544.3 ÷ 10,910.6 = 118.93 cubic feet per acre per year

Data from the United States Forest Service, Forest Inventory and Analysis
Growth potentials based on the 1975 Boyce Study

TABLE 10

Calculation of Soil Productivity Multipliers

Soil Productivity Class	Average Maximum Potential Productivity in Southern United States (cu. ft. / acre / yr.)		Average Maximum Potential Productivity (cu. ft. / acre / yr.)		Productivity Multiplier
I	163	÷	118.93	=	1.37
II	123	÷	118.93	=	1.03
III	85	÷	118.93	=	0.71
IV	60	÷	118.93	=	0.50

Source: Average Maximum Potential Productivity from Boyce Study

TABLE 11

Calculation of Average Annual Potential Growth Income by Forest Type and Soil Productivity Class

PINE

Soil Productivity Class	I					II					III					IV				
Year	Gross Income*		Prod. Mult.**		Potential Gross Income	Gross Income*		Prod. Mult.**		Potential Gross Income	Gross Income*		Prod. Mult.**		Potential Gross Income	Gross Income*		Prod. Mult.**		Potential Gross Income
2015	$65.41	x	1.37	=	$89.61	$65.41	x	1.03	=	$67.37	$65.41	x	0.71	=	$46.44	$65.41	x	0.50	=	$32.71
2016	$57.66	x	1.37	=	$78.99	$57.66	x	1.03	=	$59.39	$57.66	x	0.71	=	$40.94	$57.66	x	0.50	=	$28.83
2017	$51.43	x	1.37	=	$70.46	$51.43	x	1.03	=	$52.97	$51.43	x	0.71	=	$36.52	$51.43	x	0.50	=	$25.72
2018	$52.41	x	1.37	=	$71.80	$52.41	x	1.03	=	$53.98	$52.41	x	0.71	=	$37.21	$52.41	x	0.50	=	$26.21
2019	$58.78	x	1.37	=	$80.53	$58.78	x	1.03	=	$60.54	$58.78	x	0.71	=	$41.73	$58.78	x	0.50	=	$29.39

MIXED

Soil Productivity Class	I					II					III					IV				
Year	Gross Income*		Prod. Mult.**		Potential Gross Income	Gross Income*		Prod. Mult.**		Potential Gross Income	Gross Income*		Prod. Mult.**		Potential Gross Income	Gross Income*		Prod. Mult.**		Potential Gross Income
2015	$42.97	x	1.37	=	$58.87	$42.97	x	1.03	=	$44.26	$42.97	x	0.71	=	$30.51	$42.97	x	0.50	=	$21.49
2016	$38.01	x	1.37	=	$52.07	$38.01	x	1.03	=	$39.15	$38.01	x	0.71	=	$26.99	$38.01	x	0.50	=	$19.01
2017	$32.55	x	1.37	=	$44.59	$32.55	x	1.03	=	$33.53	$32.55	x	0.71	=	$23.11	$32.55	x	0.50	=	$16.28
2018	$33.34	x	1.37	=	$45.68	$33.34	x	1.03	=	$34.34	$33.34	x	0.71	=	$23.67	$33.34	x	0.50	=	$16.67
2019	$38.15	x	1.37	=	$52.27	$38.15	x	1.03	=	$39.29	$38.15	x	0.71	=	$27.09	$38.15	x	0.50	=	$19.08

HARDWOOD

Soil Productivity Class	I					II					III					IV				
Year	Gross Income*		Prod. Mult.**		Potential Gross Income	Gross Income*		Prod. Mult.**		Potential Gross Income	Gross Income*		Prod. Mult.**		Potential Gross Income	Gross Income*		Prod. Mult.**		Potential Gross Income
2015	$31.05	x	1.37	=	$42.54	$31.05	x	1.03	=	$31.98	$31.05	x	0.71	=	$22.05	$31.05	x	0.50	=	$15.53
2016	$28.30	x	1.37	=	$38.77	$28.30	x	1.03	=	$29.15	$28.30	x	0.71	=	$20.09	$28.30	x	0.50	=	$14.15
2017	$22.65	x	1.37	=	$31.03	$22.65	x	1.03	=	$23.33	$22.65	x	0.71	=	$16.08	$22.65	x	0.50	=	$11.33
2018	$23.26	x	1.37	=	$31.87	$23.26	x	1.03	=	$23.96	$23.26	x	0.71	=	$16.51	$23.26	x	0.50	=	$11.63
2019	$27.53	x	1.37	=	$37.72	$27.53	x	1.03	=	$28.36	$27.53	x	0.71	=	$19.55	$27.53	x	0.50	=	$13.77

* *From Table 8*
** *From Table 10*

TABLE 12

Average Annual Timber Production Costs

Year	Production Cost
2015	$35.00
2016	$34.87
2017	$35.71
2018	$36.88
2019	$37.82

Costs listed above are for Pine II, the most common class in East Texas.

TABLE 13

Production Costs Adjusted for Soil Productivity by Forest Type and Soil Productivity Class

PINE

Soil Productivity Class	I				II				III				IV			
Year	Cost		Factor	Prorated Cost	Cost		Factor	Prorated Cost	Cost		Factor	Prorated Cost	Cost		Factor	Prorated Cost
2015	$34.29	x	1.20 =	$41.15	$35.00	x	1.00 =	$35.00	$28.20	x	0.80	$22.56	$37.17	x	0.35 =	$13.01
2016	$33.97	x	1.20 =	$40.76	$34.87	x	1.00 =	$34.87	$28.63	x	0.80	$22.90	$37.23	x	0.35 =	$13.03
2017	$34.77	x	1.20 =	$41.72	$35.71	x	1.00 =	$35.71	$29.40	x	0.80	$23.52	$38.23	x	0.35 =	$13.38
2018	$35.84	x	1.20 =	$43.01	$36.88	x	1.00 =	$36.88	$30.33	x	0.80	$24.26	$39.91	x	0.35 =	$13.97
2019	$36.73	x	1.20 =	$44.07	$37.82	x	1.00 =	$37.82	$30.74	x	0.80	$24.59	$39.14	x	0.35 =	$13.70

MIXED

Soil Productivity Class	I				II				III				IV			
Year	Cost		Factor	Prorated Cost	Cost		Factor	Prorated Cost	Cost		Factor	Prorated Cost	Cost		Factor	Prorated Cost
2015	$41.68	x	0.75 =	$31.26	$44.13	x	0.60 =	$26.48	$38.96	x	0.50	$19.48	$48.27	x	0.30 =	$14.48
2016	$39.81	x	0.75 =	$29.86	$42.22	x	0.60 =	$25.33	$38.06	x	0.50	$19.03	$46.20	x	0.30 =	$13.86
2017	$39.28	x	0.75 =	$29.46	$42.03	x	0.60 =	$25.22	$37.90	x	0.50	$18.95	$45.83	x	0.30 =	$13.75
2018	$39.91	x	0.75 =	$29.93	$43.07	x	0.60 =	$25.84	$38.80	x	0.50	$19.40	$47.80	x	0.30 =	$14.34
2019	$41.41	x	0.75 =	$31.06	$44.52	x	0.60 =	$26.71	$40.52	x	0.50	$20.26	$51.07	x	0.30 =	$15.32

HARDWOOD

Soil Productivity Class	I				II				III				IV			
Year	Cost		Factor	Prorated Cost	Cost		Factor	Prorated Cost	Cost		Factor	Prorated Cost	Cost		Factor	Prorated Cost
2015	$55.98	x	0.45 =	$25.19	$58.05	x	0.40 =	$23.22	$54.07	x	0.30 =	$16.22	$62.80	x	0.20 =	$12.56
2016	$54.89	x	0.45 =	$24.70	$54.93	x	0.40 =	$21.97	$51.97	x	0.30 =	$15.59	$60.65	x	0.20 =	$12.13
2017	$53.38	x	0.45 =	$24.02	$53.25	x	0.40 =	$21.30	$50.30	x	0.30 =	$15.09	$59.20	x	0.20 =	$11.84
2018	$53.89	x	0.45 =	$24.25	$53.83	x	0.40 =	$21.53	$51.57	x	0.30 =	$15.47	$61.45	x	0.20 =	$12.29
2019	$58.69	x	0.45 =	$26.41	$59.50	x	0.40 =	$23.80	$57.90	x	0.30 =	$17.37	$69.85	x	0.20 =	$13.97

TABLE 14

Calculation of Average Annual Net Income

PINE

Soil Productivity Class	I				II				III				IV			
Year	Potential Gross Income*	-	Annual Costs**	= Net Income	Potential Gross Income*	-	Annual Costs**	= Net Income	Potential Gross Income*	-	Annual Costs**	= Net Income	Potential Gross Income*	-	Annual Costs**	= Net Income
2015	$89.61	-	41.15	= $48.46	$67.37	-	35.00	= $32.37	$46.44	-	22.56	$23.88	$32.71	-	13.01	= $19.70
2016	$78.99	-	40.76	= $38.23	$59.39	-	34.87	= $24.52	$40.94	-	22.90	$18.04	$28.83	-	13.03	= $15.80
2017	$70.46	-	41.72	= $28.74	$52.97	-	35.71	= $17.26	$36.52	-	23.52	$13.00	$25.72	-	13.38	= $12.34
2018	$71.80	-	43.01	= $28.79	$53.98	-	36.88	= $17.10	$37.21	-	24.26	$12.95	$26.21	-	13.97	= $12.24
2019	$80.53	-	44.07	= $36.46	$60.54	-	37.82	= $22.72	$41.73	-	24.59	$17.14	$29.39	-	13.70	= $15.69
5 Year Average				**$36.14**				**$22.79**				**$17.00**				**$15.15**

MIXED

Soil Productivity Class	I				II				III				IV			
Year	Potential Gross Income*	-	Annual Costs**	= Net Income	Potential Gross Income*	-	Annual Costs**	= Net Income	Potential Gross Income*	-	Annual Costs**	= Net Income	Potential Gross Income*	-	Annual Costs**	= Net Income
2015	$58.87	-	31.26	= $27.61	$44.26	-	26.48	= $17.78	$30.51	-	19.48	$11.03	$21.49	-	14.48	= $7.01
2016	$52.07	-	29.86	= $22.21	$39.15	-	25.33	= $13.82	$26.99	-	19.03	$7.96	$19.01	-	13.86	= $5.15
2017	$44.59	-	29.46	= $15.13	$33.53	-	25.22	= $8.31	$23.11	-	18.95	$4.16	$16.28	-	13.75	= $2.53
2018	$45.68	-	29.93	= $15.75	$34.34	-	25.84	= $8.50	$23.67	-	19.40	$4.27	$16.67	-	14.34	= $2.33
2019	$52.27	-	31.06	= $21.21	$39.29	-	26.71	= $12.58	$27.09	-	20.26	$6.83	$19.08	-	15.32	= $3.76
5 Year Average				**$20.38**				**$12.20**				**$6.85**				**$4.16**

HARDWOOD

Soil Productivity Class	I				II				III				IV			
Year	Potential Gross Income*	-	Annual Costs**	= Net Income	Potential Gross Income*	-	Annual Costs**	= Net Income	Potential Gross Income*	-	Annual Costs**	= Net Income	Potential Gross Income*	-	Annual Costs**	= Net Income
2015	$42.54	-	25.19	= $17.35	$31.98	-	23.22	= $8.76	$22.05	-	16.22	= $5.83	$15.53	-	12.56	= $2.97
2016	$38.77	-	24.70	= $14.07	$29.15	-	21.97	= $7.18	$20.09	-	15.59	= $4.50	$14.15	-	12.13	= $2.02
2017	$31.03	-	24.02	= $7.01	$23.33	-	21.30	= $2.03	$16.08	-	15.09	= $0.99	$11.33	-	11.84	= -$0.51
2018	$31.87	-	24.25	= $7.62	$23.96	-	21.53	= $2.43	$16.51	-	15.47	= $1.04	$11.63	-	12.29	= -$0.66
2019	$37.72	-	26.41	= $11.31	$28.36	-	23.80	= $4.56	$19.55	-	17.37	= $2.18	$13.77	-	13.97	= -$0.20
5 Year Average				**$11.47**				**$4.99**				**$2.91**				**$0.72**

* *From Table 11*
** *From Table 13*

TABLE 15

Calculation of Timber Productivity Values

Capitalization Rate: 7.28% 2020 Value

Productivity Class

Forest Type	I		II		III		IV	
	Net Income	Productivity Value	Net Income	Productivity Value	Net Income	Productivity Value	Net Income	Productivity Value
Pine	$36.14	$496.43	$22.79	$313.05	$17.00	$233.52	$15.15	$208.10
Mixed	$20.38	$279.95	$12.20	$167.58	$6.85	$94.09	$4.16	$57.14
Hardwood	$11.47	$157.55	$4.99	$68.54	$2.91	$39.97	$0.72	$9.89

APPENDIX C:
Timber Management Cost Model for Texas Timberland

Cost Item	Frequency
Property taxes	Annually
Consultant fees	At time of harvest (average of three times during a 35-year rotation)*
Consultant fees for management/administration	Annually
Accountants fees	Annually
Reforestation expenses (site preparation, seedlings, planting, etc.)	Once every 20 to 35 years
Boundary line maintenance	Once every five to 10 years (average is seven years)
Fire break/lane establishment	Once every 20 to 35 years
Fire break/lane maintenance	Once every one to five years (average is three years)*
Road maintenance	Once every three to five years (average is four years)*
Timber stand improvement • Herbicide application • Prescribed burning • Pre-commercial thinning • Fertilization • Pruning	 Once every three to five years (average is three years)* Once every three to five years (average is three years)* Once every 20 to 35 years (once during rotation possible) Every 10 to 35 years Every 12 to 35 years
Surveying	Once during ownership if boundaries are maintained
Legal fees	Once every five to 10 years
Pest control	Once every three to 10 years (average is seven years)*
Pest Inspection	Annually
Insurance	Annually
Travel to forest (reasonable travel)	Once or more annually

** Recognizing the wide range of ownership objectives and intensity of management for any specific management activity, a range of years is provided but the average time period presented is the recommended reasonable length of time for a prudent manager.*

***Note:** If a chief appraiser uses information received from a contractor maintaining or harvesting timber for the landowner, depreciation on capitalized equipment cannot be considered a timber-management cost factor. If the landowner, however, is maintaining or harvesting the timber, the chief appraiser should include depreciation on capitalized equipment as a timber-management cost factor.*

For more information, visit:
comptroller.texas.gov/taxes/property-tax

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