ISA TREE VALUATION GUIDE: A CRITICAL EXAMINATION

by Robert Tate

Abstract. The ISA Tree Valuation Guide is the most widely used method to determine the monetary values of amenity plants. Variables used to arrive at an appraisal are divided into subjective and objective classes and are critically examined. Each of the four factors: size, species, condition and location used to determine the final value of a plant are discussed. Suggestions and recommendations are made to improve the evaluation process and the individual appraiser.

Résumé. Le guide d'évaluation des arbres de l'ISA présente la méthode la plus largement utilisée pour déterminer les valeurs monétaires des plantes d'ornement. Les variables utilisées pour arriver à une évaluation sont divisées en deux catégories, objectives et subjectives, et sont examinées de manière critique. Chacun des quatre facteurs, la grosseur, l'espèce, l'état de santé et l'emplacement, utilisés pour déterminer la valeur finale d'une plante, sont discutés. Des suggestions et des recommandations sont faites pour améliorer le processus d'évaluation et l'évaluateur lui-même.

The most widely used method to ascertain the monetary value of landscape and ornamental plants in North America today is the one described in the seventh edition of the *Valuation of Landscape Trees, Shrubs, and Other Plants* and published by the International Society of Arboriculture.

This "guide" as it's commonly called is not new. It was first developed over a four-year period prior to 1951 and then tested in the field for six more years before it was first published in booklet form in 1957. It owes its parentage to various tree evaluation methods developed and modified since the turn of the 20th Century.

In the seventh edition, the way in which one determines the values of plants is broadly divided into two general categories as follows:

The first is called the **replacement method** for plants up to 8 inches in stem diameter. The replacement method has undergone several modifications since the last revision of the guide in 1983. This method is a worthwhile attempt at placing more realistic values on lost or damaged plants, using their replacement costs as a basis. The nucleus of the replacement method is the determination of the value of a replacement plant. The appraiser then ascertains how best to use the method, given a particular situation.

Three situations are described to demonstrate how to use the replacement method. Each of these situations has different variables available for use by the appraiser and are really three different replacement guides. Fortunately, there are numerous examples of each which can aid the plant appraiser in choosing the situation that best fits the casualty plant.

The second category is the **basic formula method.** This is used to appraise trees that are too large to replace with nursery and/or field stock. In the latest revision, the basic formula method is suggested to be used on trees over 8 inches in diameter. The appraiser has some leeway in choosing when to use the basic formula method over the replacement method for diameters up to 12 inches. Since larger trees are usually the highest value casualty plants, most of the guide deals with the basic formula and how the appraiser uses it in tree evaluations.

Use of the basic formula method requires the appraiser to determine the cross-sectional area of the tree at 4.5 feet above the ground, its species, its condition, and its location (a factor that has become misnamed and used as a catch all). Location has now become the single-most difficult factor to use to appraise trees because it includes aesthetic, functional and site variables, most of which are extremely subjective and difficult to use.

Unfortunately one of the best parts of the guide has been lost due to the many revisions. For example, prior to the third revision in 1975, extensive geographical classifications of tree species and cultivars were a part of the guide. The justification given by third revision for removing tree species with their rating categories was that the lists did not follow climate or hardiness zones and that the lists were not of sufficient detail to be of widespread value.

Appraisers are now told to use lists available from experiment stations and ISA chapters. One in

the list that appears in Appendix One doesn't exist. The Texas Chapter ISA has not prepared a species rating list for Texas. This mistake appeared in previous revisions.

Unfortunately there are no widespread species list substitutes available and those that I have seen use the old species rating categories as their foundation. Also, the lists of plants that are considered desirable for a particular region do not rate the trees by percentage classes. In fact many appraisers still use the old tree species rating guide. Future revisions should make an attempt to reintroduce the species rating category updated to include hardiness zones and additional pertinent information. Reintroduction of a species guide encompassing the areas covered by each ISA chapter would be an excellent individual chapter project.

Properly done, evaluating the monetary value of an ornamental plant is a site-intensive operation. It should be obvious that evaluating a tree cannot be correctly accomplished from an office. Looking at the tree and its environment, collecting samples, taking photographs, measuring and examining its parts, asking questions about it and being thorough are only one-half of the attributes of a good appraiser.

The other half is a complete understanding of the guide, its strengths, limitations, what was contained in prior revisions, what has changed in the latest revision and the fact that the guide is a guide, no more, no less. It is not and should not become what many of its critics want it to be; a cookbook approach, cast in stone, tree evaluation system with no room for the "art" aspect of the tree evaluation. Tree evaluation is not a science in the pure sense. It will be as much art as science as long as trees don't readily lend themselves to be pigeonholed into a homogeneous group.

It is unfortunate that potential users of the guide do not take a test before they can obtain their first copy. Worthwhile attempts by the local ISA Chapters and others to educate users by training sessions and seminars dealing with the guide are increasing in number. Unfortunately they are not all equal in scope and quality. The Council of Tree and Landscape Appraisers and the ISA could remedy this by developing a good short course to train first-time users of the guide and certify instructors to teach it. Some of the instructors, presently conducting seminars and short courses who are supposed to know the guide, simply don't have a firm understanding of it and the evaluation process.

Why not certify plant appraisers and require them to take periodic referesher courses to retain certification. This would accomplish much in upgrading and maintaining high quality tree appraisals.

Because the theory and approach behind the guide is so straightforward, it can be very misleading. On the surface, it appears to be a lot simpler to use than it really is to arrive at a fair and accurate appraisal. Anyone who has the basic arithmetic skills of addition, multiplication and subtraction can and has come up with a tree value.

Unfortunately except in litigation there really aren't as many checks and balances as one would like. In court, where both sides often obtain appraisals, or when only one side has an appraisal, counsel for the other party chips away at the value. Appraisers tend to be very careful and thorough in court because they know they will be scrutinized. However, in most cases, especially where the value of the plant is not great, clients don't get a second opinion and no one disputes the appraisal.

For example, when I was a city forester, settlements were routinely received by my city from insurance companies in vehicle/street tree accidents. I was never questioned about my appraisals. The appraisal values were not extremely large, but the city regularly received settlements in the $200-500 range.

One of the ways that the ISA could improve the checks and balances of the appraisal process would be for our members to submit appraisals anonymously to a central agency of the ISA. Appraisal statistics on trees by size, species, region of the country could be developed and then made available to interested appraisers. This would at least give an indication of some ranges of values.

In appraisal seminars I have given, I have seen as many values assigned to the same tree as there were appraisers in the seminar (this is not necessarily bad), but when the appraisals fluctuate in value from the ridiculous to the sublime, one has to wonder. Because even though the

valuation of ornamental plants is an art as well as a science, two knowledgeable appraisers should be pretty close. More importantly, one is supposed to appraise a tree for its ornamental value, not whether it belongs to the good guy or not. Appraisers are not supposed to be purely trying to get the "most" or "least" for their client depending who pays the fee.

However that doesn't mean that two knowledgeable appraisers can't give the same tree two values. The judgments required in using the aesthetic and locational rating methods found in the guide, allow professionals to arrive at different values. This will probably always be the case if we continue to have aesthetic, architectural and other functional uses of plants as part of the appraisal process. The point is that values can be different on the same tree, but they had better be pretty close or somebody has made a mistake.

Earlier it was stated that the guide appears to be easier to use than it actually is. To the uninitiated, it seems that all one has to do is to place a few numbers in the formula and multiply them out to arrive at a value. That is precisely what is done. However, the proper way in which the appraiser gets to that step requires an understanding that few take the time to gain. If one looks at the guide very carefully there are two general classes of measures and observations that are used to arrive at an appraisal. The first class I call objective variables. The second which is primarily made up of aesthetic and functional values, I'll call the subjective class.

Objective Variables

Plant appraisal is both an art and a science. The scientific aspect of appraising plants is precise. Many variables found in the guide require objectivity. For example, the basic formula value is the key to the guide. All calculations and observations used to determine tree value start with the basic formula value [I, in addition to others, have a problem with basic formula value and will discuss it later].

Basic formula value is derived from the measurement of tree circumference. This is a precise measure. There is only one correct tree circumference at 4.5 feet for each tree. If two appraisers arrive at different circumferences for the same tree, one is wrong (both could be wrong, but for the sake of argument let's say one is right) and consequently no matter how good and how thorough the wrong is, everything that follows has been built on an incorrect foundation.

The determination of tree species is a precise observation. It is not measured in the sense one would measure the tree circumference. Yet there is only one correct answer. It is a sugar maple or it is not. There is no judgement involved here. If the species is incorrectly determined the entire appraisal is worthless even though the rating value one assigns to a particular species is fairly subjective.

There are many other objective, precise variables in the guide. Some of the location and condition variables are objective. For example, the tree is growing in a mall or it's not. It is growing on a street curbside extension or it's growing in a front yard. Many condition factors are highly objective. For example, the tree has insects or diseases or it does not. The tree does or does not have a trunk cavity. It has or does not have a split crotch and so on.

How one deals with the observations and measurements is just as important as the way at which they arrived. Some basic calculations have to be done. Be sure to check and recheck calculations. The easiest thing for someone unfamiliar with plant appraisal is to incorrectly add or multiply the values shown in the appraisal. (If an appraiser multiplies 2 times 10 and gets 25, he is in for a long embarrassing day in the witness chair.) These examples may appear to be humorous, but they are actual cases taken from tree appraisals done in my seminars by people who should know better.

The point in bringing up these examples is first to counter criticism that the guide is not objective enough. In many cases, it is objective and requires precise determinations. Secondly, it is not easy to use. In this respect, the guide does ramble along occassionally. It is not clearly understood by skimming and by picking and choosing a formula here and there. The correct use of the guide requires careful reading and a thorough understanding of it. Since it is a guide, questions that may arise are usually answered in a general way or suggestions are given to help.

Subjective Variables

The second class of measures and observations is subjective in nature. Many of the location values, especially aesthestic, functional and site factors are very subjective. Two appraisers can honestly value these measures and observations differently and both be right. A better word would be reasonable. Much of our law system is based on the concept of reasonableness. If an appraiser's opinion or judgment about a subjective factor can be generally supported by other professionals, it will hold up. Moreover, being able to illustrate and articulate how a subjective judgment was developed and that it is reasonable is the most important point here. Professionalism, in the final analysis, is what counts. That means, how you talk, what you wear, your faith in your judgment, your reasoning, and your knowledge of the tree appraisal process and the guide are the points to remember. If you are unsure of your ability to deal with a particular subjective variable, either don't use it, get help to enable you to use it, or use another. In most situations, the guide gives you the luxury of picking more than one variable to use for each rating factor.

Some Criticism

The guide is certainly not perfect. On balance the latest edition is far better than the first. However, there are some things that still need to be addressed. For example, three factors: species, condition and location have the same weight and power to influence the final value of a tree. Does the condition factor influence tree value equally as much as the species factor? Is the value of a tree influenced more or less by its condition than its location or by its species? What if everything were dependent on condition and condition had twice the weight factor as location? Would the guide and the appraisal process be better or just more difficult to use?

Since size is the measure used to derive basic formula value a better way should be devised to determine the size of a tree. It is true that in general the larger a tree's diameter the larger its total size. However, we are not determining the volume of wood in the stem, but rather attempting to arrive at a size that is representative of the tree's overall occupancy of space. This also includes its height and crown diameter. A better measure might be an index value which includes tree height, crown diameter and trunk diameter.

The guide does not deal with dead trees, nor does it deal with negative values. Is the condition rating of a dead tree zero? If it is (and the condition discussion in the guide certainly leads one to believe such) then the final value of the tree is zero since the other values (location and species) are all multiplied by zero.

For example, if the guide is used to place a value on the "ghost cypress" near Monterey, California, this tree's value is zero. The tree has been dead for many years. It is supported by cables, but is a noted tourist attraction. It is used by birds, is highly aesthetic, and it definitely has value. Admittedly, we don't evaluate too many dead trees, but the guide should address this. No evaluation factor should be zero because then the ornamental value of the plant is zero.

Can a tree have a negative value? Not according to the guide, because no provisions are made for any of the rating factors to be less than zero. However, in reality, a tree can have a very low monetary value (according to the guide) and have a very high cost associated with removing it. Does the tree then have a negative value? Should the guide remain silent on this? What about a tree that is dangerous with a large split crotch? Does it have negative value because it is hazardous and should that subtract from its ornamental value?

The guide suggests that the appraiser measure and equate the subject tree against the ideal tree of its species. Some discussion and diagrams of a few "ideal" trees would be helpful. The ideal tree in nature is probably not the same tree along a street or in an urban environment. Is the ideal tree found in arboreta or in its "natural" environment, the woods? Ideal trees can be different things to different professionals.

The three rating factors of species, condition and location are usually subtractive because in practice appraisers tend not to give the full value of 100 percent to any of the three. In reality the guide starts with an arbitrary dollar value derived from the cross-sectional area of the tree, and then subtracts the very amenity values the tree is supposed to produce in the landscape. Moreover the guides states, "...the location factor becomes a

measure of the [benefits] derived from the plant" yet it is used to subtract from the basic value.

A better way might be to start with a dollar value derived from a replacement cost, then let each rating factor multiply this value. Future revisions of the guide should consider alternative ways of evaluating the value of trees just like different situations are illustrated in the Replacement Value section.

In my opinion, the biggest problem with tree evaluations based on the guide is the tree appraiser. First, few spend the time and effort it takes to evaluate a tree properly. Good accurate tree evaluation takes time. Quick and dirty evaluations are worthless. Secondly, everything in this world is becoming more specialized. The guide requires appraisers to make specialized decisions based on their knowledge of plant pathology, aesthetics, ornamental horticulture and tree physiology. Few appraisers have the depth of specialized knowledge required so don't compromise the guide and the profession by not calling on the services of an expert, if needed, to help with the evaluation. Moreover one should not be reluctant to charge a realistic price for a good appraisal. A minimum of 4 hours per tree appraisal is not unreasonable. If outside help is needed charge the client what the specialist charges plus your time.

Lastly, ISA members know that the basic formula value per square inch has increased from the last revision. But how many are aware of additional changes? There have been several, yet The Council of Tree and Landscape Appraisers and the ISA don't seem to point out the major changes from previous editions (revisions) sufficiently. Why doesn't each revision summarize the changes and discuss them and their implications in a preface instead of leaving us in the dark, having to search page by page for the changes?

Being a good tree person is not the chief factor needed in appraising ornamental trees. To be a good tree appraiser, one has to enjoy doing tree appraisals. Not everybody does. Moreover, many good arboriculturalists do not measure up as appraisers because they don't know the guide, how it differs with each revision and how to discuss each factor used to arrive at a value. The tree evaluation guide is an excellent, but not perfect, system. It has had uncounted hours of work put into it. Its original development and revisions are sound and, in general, well thought out. To give it less than it deserves by not using it properly does the guide, tree appraisals, and arboriculture a great disservice.

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