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Utah Forest Facts
Utah State University Extension

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Species Ratings for Landscape Tree Appraisal in Utah

Mike Kuhns, State Extension Forester,
in cooperation with the Utah Community Forest Council

This fact sheet establishes species ratings to be used by tree appraisal experts with the trunk formula method for appraising the monetary value of trees in Utah.

Species Ratings and the Trunk Formula Method

The dollar value of a landscape tree occasionally needs to be determined for insurance purposes, condemnation, real estate transactions, or tree inventories. For larger trees the trunk formula method often is used for establishing these values. This method starts with calculation of a basic value and adjusts that value for the species, condition, and location of the tree.

This fact sheet establishes species ratings for nearly all trees likely to be found in the Intermountain West, with a particular focus on Utah. These species ratings are or use with the trunk formula method of tree appraisal. These ratings are not to be used with the replacement cost method since they are already reflected in the cost of the replacement tree.

The complete tree appraisal procedure is described in detail in the "Guide for Plant Appraisal" prepared by the Council of Tree and Landscape Appraisers and published by the International Society of Arboriculture (8th edition, available from ISA, P.O. Box 3129, Champaign, IL 61826-3129; phone (217) 355-9411; http://www.ag.uiuc.edu/~isa/).

Uses and Limitations

Species ratings in this guide are given by Latin name and common name and are expressed as percentages, with a maximum possible value of 100% and a minimum value of 5%. Latin names are used to keep like species together in this table. These ratings are subjective, based on a tree's adaptability to environmental factors, growth characteristics, aesthetics, maintenance needs, structural qualities, longevity, and allergenic properties.

Each species is given a rating range of about 10 to 20 points within which most trees of that species will likely fall. Ratings should be adjusted within or even outside of the given range if local conditions require. For example, a species planted on a site where it is poorly adapted might get a lower species rating, and an otherwise poor species planted in an especially harsh area where nothing else will do well might get a higher species rating. Species ratings should be based only on overall species-related factors, without regard to condition or location factors that are tied to a specific tree and its site.

These species ratings and the related appraisal methods generally are for trees in cultivated or developed landscapes where the tree lends considerable aesthetic and functional contribution to the site. They generally should not be used for appraising trees in undeveloped, unpopulated rural areas. Such trees may be better evaluated using forest/timber appraisal techniques. Better appraisal techniques also exist for shrubs, windbreak trees in rural,

non-residential situations, and for appraisal of orchard trees or Christmas trees.

Knowledge Is Essential

Appraisal of landscape trees and adjustment of the species ratings included in this fact sheet should only be done by persons who are experts in use of the appraisal techniques. These persons also must be knowledgeable about the species involved, site conditions, and about trees and tree biology.

The species ratings in this fact sheet are based on the knowledge and opinions of the author and of several experts involved in community forestry in the area. We welcome input and advice. Contact Mike Kuhns, Extension Forester, Utah State University, Logan, UT 84322-5125, or send e-mail to mikek@ext.usu.edu.

Other Appraisal Factors

The following factors are needed for conducting tree appraisals (see the "Guide to Plant Appraisal") and have been derived from surveys of nurseries and tree moving companies in the Rocky Mountain area. They likely will change regularly. For up-to-date figures, or for other community forestry assistance, contact the Utah Community Forest Council at (801)538-5505.

Largest normally available transplantable tree size— the largest tree available for at least 50% of the species in 50% of the nurseries: Broadleaves or Conifers— 3"

Replacement cost— the cost to buy and install the largest normally available tree (see above), including warranty: $609

Basic price— the cost per square inch of trunk area (measured according to American Nursery Standards) of a typically available or representative replacement tree: $36

Largest transplantable size— the largest average tree that companies with mechanical tree moving equipment will move with their largest machine and give a warranty—8"

Species Ratings

Species	Rating
Gymnosperms (mostly with needle or scale foliage)	
❖*Abies concolor*— white fir • concolor fir	75-95%
❖*Abies lasiocarpa*— subalpine fir • alpine fir	60-80%
Calocedrus decurrens, Libocedrus decurrens — incense-cedar	75-95%
Cedrus atlantica, deodara, libani, etc.— true cedars	90-100%
Chamaecyparis obtusa— Hinoki falsecypress • Hinoki cypress	75-95%
Cupressus arizonica— Arizona cypress	75-95%
Cupressus sempervirens— Italian cypress	75-95%
Ginkgo biloba— ginkgo • maidenhair tree (male only; female 10-30%)	90-100%
❖*Juniperus chinensis*, ❖*osteosperma*, ❖*scopulorum*, *virginiana*, etc.— junipers	55-75%
Larix decidua, kaempferi, etc.— larches	90-100%
Metasequoia glyptostroboides— dawn redwood	80-100%
Picea abies— Norway spruce	75-95%
Picea engelmannii— Engelmann spruce	70-90%
Picea glauca— white spruce • Black Hillsspruce	75-95%
Picea glauca `Conica' —dwarf Alberta spruce	50-70%*
Picea omorika— Serbian spruce	75-95%
❖Picea pungens— blue spruce • Colorado blue spruce	75-95%
❖*Pinus aristata*— bristlecone pine	80-100%
Pinus bungeana— lacebark pine	90-100%
❖*Pinus contorta* or *P. contorta* var. *latifolia* —lodgepole pine	60-80%
Pinus densiflora— Japanese red pine	70-90%
❖*Pinus edulis*— pinyon • Colorado pinyon	65-85%
❖*Pinus flexilis*— limber pine	80-100%
Pinus halepensis— Aleppo pine	60-80%
❖*Pinus monophylla*— singleleaf pinyon	75-95%
Pinus monticola— western white pine	70-90%
Pinus mugo— Mugo pine • Swiss mountain pine	50-70%*
Pinus nigra— Austrian pine	70-90%
Pinus parviflora— Japanese white pine	75-95%
❖*Pinus ponderosa*— ponderosa pine	70-90%
Pinus strobiformis— southwestern white pine	80-100%
Pinus strobus— eastern white pine	50-70%
Pinus sylvestris— Scotch pine • Scots pine	75-95%
Pinus thunbergiana— Japanese black pine	70-90%
Pinus wallichiana—Himalayan pine • Bhutan pine	70-90%
❖*Pseudotsuga menziesii*— Douglas-fir	65-85%
Sequoiadendron giganteum— giantsequoia	85-100%
Taxodium distichum— baldcypress	90-100%
Thuja occidentalis— northern white-cedar • eastern arborvitae	65-85%

*Often shrubby; ❖Utah native

Species	Rating
Thuja orientalis or *Platycladus orientalis* —Oriental arborvitae	45-65%
Thuja plicata— western redcedar	70-90%

Angiosperms (mostly broadleaves)

Species	Rating
Acer buergeranum— trident maple	75-95%
Acer campestre— hedge maple	75-95%
Acer ginnala— Amur maple • Ginnala maple	50-70%*
❖*Acer glabrum*— Rocky Mountain maple	75-95%
❖*Acer grandidentatum*— canyon maple • bigtooth maple	90-100%
Acer griseum— paperbark maple	85-100%
❖*Acer negundo*— boxelder • ash-leaved maple • Manitoba maple	50-70%
Acer nigrum— black maple	80-95%
Acer palmatum— Japanese maple	75-95%
Acer platanoides— Norway maple	70-90%
Acer pseudoplatanus— sycamore maple	65-95%
Acer rubrum— red maple	50-70%
Acer saccharinum— silver maple	40-60%
Acer saccharum— sugar maple	70-90%
Acer tataricum— Tatarian maple	75-95%
Acer truncatum— purpleblow maple • Shantung maple	75-95%
Aesculus californica, glabra, hippocastanum —buckeyes, horsechestnuts	60-80%
Aesculus × carnea— red horsechestnut	70-90%
Ailanthus altissima— tree-of-heaven •ailanthus	35-55%
Albizia julibrissin— mimosa • silk-tree •albizia	55-75%
Alnus glutinosa—European alder •common alder	60-80%
❖*Alnus tenuifolia*— thinleaf alder •mountain alder	65-85%
❖*Amelanchier alnifolia*— Saskatoon •western serviceberry	75-95%*
Amelanchier arborea— downy serviceberry	80-100%
❖*Amelanchier utahensis*— Utah serviceberry	65-85%*
Betula nigra— river birch	60-80%
❖*Betula occidentalis*—water birch • river birch	60-80%
Betula papyrifera— paper birch	55-75%
Betula pendula— European white birch	55-75%
Carpinus betulus— European hornbeam	80-100%
Carpinus caroliniana— American hornbeam • musclewood	85-100%
Carya illinoensis— pecan	60-80%
Castanea mollissima— Chinese chestnut	70-90%
Catalpa bignonioides, speciosa, etc.— catalpas	40-60%
Celtis occidentalis— hackberry • common hackberry	75-95%
❖*Celtis reticulata*— netleaf hackberry	75-95%
Cercidiphyllum japonicum— Katsuratree	65-85%
Cercis canadensis— eastern redbud •Judas-tree	80-100%

*Often shrubby; ❖Utah native

Species	Rating
❖*Cercis occidentalis*— California redbud • western redbud	90-100%*
❖*Cercocarpus ledifolius*— curlleaf mountain-mahogany	70-90%*
❖Chilopsis linearis— desertwillow	45-65%*
Chionanthus virginicus— fringetree • white fringetree	80-100%
Cladrastis lutea or *C. kentuckea*— yellowwood	70-90%
Cornus alternifolia, florida, etc—.dogwoods	65-85%
Cornus kousa— Kousa dogwood	75-95%
Cornus mas— pagoda dogwood • alternate leaf dogwood	75-95%
❖*Cornus sericea*— red-osier dogwood •red-stemmed dogwood	65-85%*
Corylus americana, colurn cornuta, etc. hazelnuts • filberts	70-90%
Cotinus coggygria, obovatus, etc.— smoketrees	60-80%*
❖*Cowania mexicana*— cliffrose •quininebush	75-95%*
Crataegus crusgalli, vdouglasii, laevigata,* × *lavallei, phaenopyrum, viridis,* etc.— hawthorns	70-90%
Elaeagnus angustifolia— Russian-olive	5-30%**
Fagus grandifolia, sylvatica, etc.—beechs	80-100%
Fraxinus americana— white ash	70-90%
❖*Fraxinus anomala*—singleleaf ash•dwarf ash	70-90%*
Fraxinus excelsior— European ash	35-55%
Fraxinus pennsylvanica— green ash	65-85%
Fraxinus quadrangulata— blue ash	65-85%
❖*Fraxinus velutina*— velvet ash • Modesto ash	40-60%
Gleditsia triacanthos— honeylocust	70-90%
Gymnocladus dioicus— Kentucky coffeetree	80-100%
Ilex opaca—American holly	80-100%
Juglans cinerea, major, nigra, regia— walnuts and butternut	65-85%
Koelreuteria paniculata— goldenraintree	70-90%
Laburnum × watereri— goldenchain tree •Waterer laburnum	65-85%
Lagerstroemia indica— crapemyrtle	65-85%*
Liquidambar styraciflua— sweetgum •American sweetgum	60-80%
Liriodendron tulipifera—yellow-poplar •tuliptree • tulip-poplar	70-90%
Maclura pomifera— Osage-orange	70-90%
Magnolia acuminata, grandiflora, kobus, × *loebneri,*× *soulangiana, stellata,* etc. —magnolias	75-100%
Malus pumila— apple	50-70%
Malus spp.— crabapple	65-90%
Melia azedarach— Chinaberry	30-50%
Morus alba, rubra, etc. —mulberries	60-80%
❖*Ostrya knowltonii*— Knowlton hornbeam	75-95%

*Often shrubby; ❖Utah native
**May be a noxious weed

Species	Rating
Ostrya virginiana— Eastern hophornbeam • ironwood	80-100%
Phellodendron amurense— Amur corktree	70-90%
Pistacia chinensis, vera— pistachio, pistache	75-95%
Platanus × acerifolia, occidentalis—planetrees, sycamores	65-95%
Populus × acuminata— lanceleaf cottonwood	50-70%
Populus alba— white poplar	40-60%
❖*Populus angustifolia*— narrowleaf cottonwood	50-70%
❖*Populus balsamifera*— balsam poplar	45-65%
Populus × canadensis— Carolina poplar and other hybrid poplars	40-60%
Populus candicans— balm-of-Gilead	45-65%
Populus deltoides— eastern cottonwood	50-70%
❖*Populus fremontii*— Fremont cottonwood	60-80%
Populus nigra var. *italica*— Lombardy poplar	35-55%
❖*Populus tremuloides*—quaking aspen •trembling aspen	45-65%
❖*Populus trichocarpa*— black cottonwood	50-70%
❖*Prosopis glandulosa* or *P. juliflora*— honey mesquite	60-80%*
Prunus armeniaca— apricot	60-80%
Prunus avium— sweet cherry • mazzard	50-70%
Prunus cerasifera—purpleleaf plum•cherry plum • Myrobalan plum	45-65%
Prunus cerasus— sour cherry	50-70%
Prunus domestica— common plum	50-70%
Prunus padus—European bird cherry •May Day tree	60-80%
Prunus persica— peach	40-60%
Prunus sargentii— Sargent cherry	65-85%
Prunus serrulata— Japanese flowering cherry • Oriental cherry	70-90%
Prunus subhirtella— Higan cherry 7	0-90%
❖*Prunus virginiana*— common chokecherry	55-75%*
Prunus × yedoensis— Yoshino cherry	70-90%
❖*Ptelea angustifolia*—common hoptree • wafer-ash • western hoptree	70-90%*
Pyrus calleryana—Callery pear (wide variation by cultivar; `Bradford' 50-70%)	65-90%
Pyrus communis— common pear	50-70%
Pyrus ussuriensis— Ussurian pear	65-85%

*Ofgen shrubby; ❖Utah native

Species	Rating
Quercus acutissima— sawtooth oak	75-95%
Quercus alba— white oak	80-100%
Quercus bicolor— swamp White oak	90-100%
Quercus cerris— turkey oak	75-95%
❖*Quercus gambelii*— Gambel oak • scrub oak • Rocky Mountain white oak	70-90%*
Quercus imbricaria— shingle oak • laurel oak	60-80%
Quercus macrocarpa— bur oak •mossycup oak	90-100%
Quercus muehlenbergii— chinkapin oak	80-100%
Quercus palustris— pin oak	35-55%
Quercus robur— English oak	80-100%
Quercus rubra— northern red oak	75-95%
Quercus shumardii— Shumard oak	80-100%
❖*Quercus turbinella*— shrub live oak	65-85%*
❖*Quercus undulata*— wavyleaf oak	65-85%*
Robinia × ambigua— Idaho flowering locust	50-70%
❖*Robinia neomexicana*— New Mexican locust	60-80%
Robinia pseudoacacia— black locust	50-70%
❖*Salix amygdaloides*— peachleaf willow	50-70%
Salix babylonica— weeping willow	35-55%
Salix fragilis— crack willow	30-50%
Salix matsudana— Hankow willow cultivars, including globe Navajo willow	25-45%
Salix nigra— black willow	40-60%
❖*Sambucus cerulea*— blue elder	60-80%*
Sophora japonica— Japanese pagodatree • scholar-tree	70-90%
Sorbus alnifolia— Korean mountain-ash	55-75%
Sorbus americana— American mountain-ash	50-70%
Sorbus aucuparia— European mountain-ash • rowan	45-65%
❖*Sorbus scopulina*— Greene mountain-ash	60-80%*
Syringa reticulata— Japanese tree lilac	80-100%
Tamarix ramosissima— tamarisk • salt-cedar	5-20%*,**
Tilia americana, cordata,× euchlora, tomentosa, etc.— lindens, basswoods	70-90%
Ulmus americana— American elm • white elm	35-65%
Ulmus parvifolia— lacebark elm • Chinese elm	65-85%
Ulmus procera— English elm • elm hybrids	55-75%
Ulmus pumila— Siberian elm • Chinese elm	25-45%
❖*Yucca brevifolia*— Joshua-tree	60-80%*
Zelkova serrata— Japanese zelkova	55-75%

*Often shrubby; ❖Utah native
**May be a noxious weed

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