

Ridgway Community Forest Management Plan



Ridgway Parks, Trails, and Open
Space Committee
Colorado State Forest Service,
Montrose District

Adopted by:

Ridgway Planning Commission on July 26,
2016

Ridgway Town Council on August 10,
2016

May 2016

Priority Action Items for 2016-2021

As a result of this Community Forest Management Plan, the following priority actions have been identified for implementation in the next six years. Some items can be completed concurrently based upon budget, staff and volunteers, but the list below attempts to put some perspective on what is more urgent.

- **All persons involved with tree care should thoroughly read and understand this management plan.**
- Implement highest priority treatments such as defective pruning/removals for liability purposes and inspections for sound wood on the trees with the highest risk. Utilize a certified ISA Arborist, in addition to local expertise.
- Work to create a sustainable and reliable water supply in Cottonwood Creek.
- Document improvements to individual trees so that database updates can be made in real time or at a minimum, annually. Add all newly-planted trees on town property to the tree inventory database.
- Form a tree board (Reference Appendix J for town of Silt's Tree Board and Tree Care program outline) and train them well (with CSFS assistance) so that work efforts can be distributed with regards to budget planning, workforce oversight and general implementation of this plan.
- Complete structure pruning, routine pruning, clearance pruning, cultural treatment work, etc. on highest risk trees first. Keep in mind that this type of work on smaller trees should not be neglected and can be done with volunteers as soon as possible to promote good tree growth. (For example, checking watering regimes and possible water leaks like the possible one in Rollans Park should be done at the beginning of the 2016 growing season.)
- Re-inventory all trees including additions in 2020 and update management plan.
- Establish a tree ordinance and apply for Tree City USA through CSFS to showcase your efforts and garner support for an improved Community forest, increased budget and larger volunteer base.

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Introduction

The trees within the parks and open spaces of Ridgway are resources whose value cannot be overstated. They provide not only shade, shelter, and environmental benefits, but also contribute to Ridgway's "sense of place:"

- The grove of trees at Heritage Park provides a welcome to the town and hint at our aesthetic values.
- The monolithic cottonwoods in Hartwell Park are the epicenter of Ridgway and iconic for residents who gather under their canopy. They are an unstated-and perhaps even unconscious-attraction that encourages visitors to stop and linger.
- Trees at the Regional Athletic Park provide a sense of permanence and comfort for active people and their audiences.
- The cottonwoods in their namesake park encourage residents to walk, interact with their neighbors, and exercise their dogs. Neighborhood children connect with nature here while playing hide-and-seek amidst the thickets.
- Juniper and pinyon at the Dennis Weaver Memorial Park create a contemplative and serene setting.
- Mature trees at Rollans Park decorate the riparian corridor; newly planted trees describe a vision of restoration for this section of the Uncompaghre River.

Purpose and Need

The purpose of this Community Forest Management Plan is to provide direction that improves and sustains the economic and community benefits of town trees for present and future generations by growing a healthy and resilient community forest. The Plan will maximize the value of resources allocated to our town trees, and the efficiency and effectiveness with which they are managed.

Currently, the Town of Ridgway procures professional arborist services through contract. The emphasis is on: mitigation of hazards; general tree maintenance; disposal of materials; tree replacement or new planting as requested by the town; and consultation and staff support relative as needed to support a healthy Community forest. These services are provided for Hartwell Park and selected public rights-of-way.

Other tree maintenance is undertaken by town staff. Minimal tree planting occurs, but location and species selection is not tiered to a plan that considers the entire and future community forest of Ridgway. *Adopt-a-Park* volunteer groups also provide maintenance and tree planting services.

Missing from these services but identified in this Community Forest Management Plan is:

- An articulated and long-term plan for current and future town trees designed to achieve stated community forest goals for Ridgway; and
- Community outreach that promotes tree preservation, tree planting and best arboricultural practices (species selection, site selection, long term care and maintenance).

Ridgway Community Forest Goals

The following goals provide the foundation for our desired future conditions and all forest management actions. They also create the basis for the Ridgway Tree Ordinance.

1. Create green canopies and corridors that encourage gathering, walking, and social interaction. Use trees to screen areas that are not visually appealing; create/enhance vistas in other areas.
2. Establish and maintain an optimal level of age and species diversity for aesthetics and ecological resilience.
3. Use community forest best management practices along with the guidelines in this plan to select, situate, and maintain trees to maximize benefits and minimize hazard, nuisance, hardscape damage, and maintenance costs.
4. Foster community support for the local community forestry program and encourage best tree management practices by private property owners.
5. Ensure that new construction and subdivision developments incorporate tree planting and maintenance that is consistent with this Plan.

These goals complement and support the goals of the *Ridgway Streetscape Master Plan Report (2006)*.

Relationship to Existing Ridgway Policy and Code

The Ridgway Community Forest Management Plan tiers to, and provides support for:

1. The *Ridgway Comprehensive Plan – Parks, Trails, Open Spaces, and Facilities Element (2012)*: this plan guides the development of town parks, trails, and open spaces, with consideration for the preservation, restoration, and enhancement of environmentally sensitive areas. The plan also promotes quality of life and economic development values.
2. The Ridgway Municipal Code, Sections 6-1-11 and 6-6-3 (building regulation landscaping and single family residential landscaping – both for new construction)
3. Concept plans already established for the Regional Athletic Park, Rollans Park and Green Street Park.
4. Future concept plans, such as the Uncompaghre River Master Plan.
5. The *Ridgway Streetscape Master Plan (2006)* which strives to create great outdoor spaces and bring the natural beauty of the area into the heart of Ridgway.

Ridgway Tree Ordinance

The Town of Ridgway recognizes that trees provide important environmental and economic benefits to residents and visitors that extend well beyond the boundaries of the property on which they grow. The Ridgway Tree Ordinance is one of several tools that could be used by the town to maximize those benefits and attain the stated goals of this Community Forest Management Plan. It does this by providing the legal framework for forest management activities on private land. However, it is intended to facilitate rather than prescribe these management activities.

An ordinance would support the following action items from the Goal 2, Action Item 1 of the *Ridgway Comprehensive Plan – Parks, Trails, Open Spaces, and Facilities Element (2012)*: “Establish and define sustainable development standards and guidelines for new development incorporating community values such as ... tree and plant preservation, and other good stewardship and conservation oriented standards.”

The *Ridgway Streetscape Master Plan Report (2006)* also calls for a tree preservation ordinance to “Ensure a consistent tree canopy is maintained throughout the community and to ensure summer shade and reduce heat build-up. “ As part of this proposed ordinance “... new developments should be required to not only preserve existing trees, but to plant new street trees consistent with the Master Plan design.”

A tree ordinance would be based on the Ridgway Community Forest Management Goals articulated above (see page 4) and would include the following categories of policy:

1. The planting and removal of trees within public rights-of-way, including the maintenance or removal of private trees which pose a hazard to the public.
2. Protection for “heritage trees,” including permit requirements for removal, encroachment, or maintenance.
3. Requirements for new construction and subdivision development.

See Appendix I for a sample tree ordinance. Additional guidance can be found at:

- The International Society of Arborists (ISA) - [Tree Ordinance Guidelines](#)
- Tree City USA Bulletin No. 9 - [How to Write a Municipal Tree Ordinance](#)

Community Education and Outreach

Educating and involving Ridgway residents about the town’s Community forest management program – its purpose and benefits – is a cornerstone to successful implementation. Opportunities for education and outreach include the following:

Workshops

In conjunction with the Colorado State Forest Service and/or the Tri-County Extension Service, Ridgway will host workshops on tree selection, planting, maintenance, and insects/disease. Workshops could also be held on “How to Protect Trees During Construction.” As part of these workshops, residents can become familiar with the town’s Community Forest Management Plan and how their private property fits into the larger community picture.

Ridgway Town Government Website

The town’s website (<http://www.town.ridgway.co.us/>) is a good place to generate interest in, and support for, good cultural practices for both public and privately-owned trees. It is recommended that the website add a section from its Bulletin Board titled *Community Trees-Selection and Care* (or similar). This series of pages and links could include this plan, the recommended species for Ridgway, best management practices, and other pertinent information. Links to other resources would be included as well, such as (but not limited to):

- www.TreesAreGood.com
- www.ArborDay.org
- www.isa-arbor.com
- www.cfsf.edu

Planting Trees in Ridgway Brochure

A tri-fold brochure has been developed that recommends species for Ridgway and planting tips

Tree City USA

The Tree City USA is a national program sponsored by the Arbor Day Foundation that provides the framework for community forestry management for cities and towns across America. Communities achieve a Tree City USA status by meeting four core standards of sound Community forest management:

1. Maintaining a tree board or department
2. Having a community tree ordinance
3. Spending at least \$2 per capita on Community forestry
4. Celebrating Arbor Day

A Tree City USA designation is an opportunity to share with the community the value of our trees and the importance of sustainable tree management. The designation also generates community pride and interest in tree planting and care.

Summary of Prioritized Action Items for 2016-2021

As a result of this Community Forest Management Plan, the following priority actions have been identified for implementation in the next five years. Some items can be completed concurrently based upon budget, staff and volunteers, but the list below attempts to put some perspective on what is more urgent.

- **All persons involved with tree care should thoroughly read and understand this management plan.**
- Implement highest priority treatments such as defective pruning/removals for liability purposes and inspections for sound wood on the trees with the highest risk. Utilize a certified ISA Arborist only.
- Document improvements to individual trees so that database updates can be made in real time or at a minimum, annually.
- Form a tree board (Reference Appendix J for town of Silt's Tree Board and Tree Care program outline) and train them well (with CSFS assistance) so that work efforts can be distributed with regards to budget planning, workforce oversight and general implementation of this plan.
- Establish a tree ordinance and apply for Tree City USA through CSFS to showcase your efforts and garner support for an improved Community forest, increased budget and larger volunteer base.
- Complete structure pruning, routine pruning, clearance pruning, cultural treatment work, etc. on highest risk trees first. Keep in mind that this type of work on smaller trees should not be neglected and can be done with volunteers as soon as possible to promote good tree growth. (For example, checking watering regimes and possible water leaks like the possible one in Rollans Park should be done at the beginning of the 2016 growing season.)
- Re-inventory all trees including additions in 2020 and update management plan.

Purpose of Tree Inventory

An assessment of Ridgway's existing community forest provided the basic information necessary for making management decisions. A tree inventory was called for in Goal 3, Action Item 1 of the *Ridgway Comprehensive Plan – Parks, Trails, Open Spaces, and Facilities Element (2012)* as follows:

Inventory the Town's Community forest and implement priority management for these valuable assets, from hazard removal and mitigation to public outreach and education on proper tree care for trees in the rights-of-way adjoining private property, to planting for the future.

Action Item 6 is also pertinent:

Perform annual evaluations of public spaces and pay attention to fluctuations in the health of flora and Community forests, evaluating these changes over time, making adjustments as appropriate in response to transformation in climate, environment, or other factors influencing the health of the flora.

In 2014-2015, the Town of Ridgway contracted with the Colorado State Forest Service to complete a tree inventory for the town's parks and priority public rights-of-way. The inventory served to individually identify trees, their characteristics, maintenance needs, insect/disease issues, and management recommendations. From this inventory, the town identified and prioritized annual maintenance needs and appropriate successional planting strategies. It also provided a baseline against which change can be measured.

Summary of Areas Inventoried

Location	Trees Inventoried
Hartwell Park	111
Cottonwood Park	71
Rollans Park	60
Regional Athletic Field	61
Dennis Weaver Memorial Park	9
Green Street and Industrial Park	General inventory completed; individual trees not counted
Street Trees (mostly in historic district)	117
TOTAL TREES INVENTORIED	429 (individual trees)

Tree Inventory and Management Recommendations

Completed December 2015

Written by: Colorado State Forest Service

Jodi Rist, Montrose District Forester

Introduction and Process

The town has many trees of various species, sizes, in various locations and conditions with very different management needs. These factors contribute to a tree's value as well as risk and cost to the town in maintaining that tree in the landscape. In order to easily manage this complex community forest, the town staff needed a tree inventory to first determine where their trees are located, what their specific attributes are and what their values, risk ratings and management needs could be. This inventory and management plan, completed by the Colorado State Forest Service (CSFS), is intended to help the town make a better plan for the sustainability of its Community forest resources by helping them prioritize their efforts with limited staff and financial resources.

The CSFS was hired by the town to inventory each tree they owned (see Appendix E for signed service agreements). The Town Manager, Jen Coates, and Lois Ziemann, a Volunteer with the Parks, Open Spaces and Trails Committee, prioritized the areas they wanted to inventory due to limited funds. The areas below, now called 'units', were inventoried and are included in this plan.

Units Inventoried in 2014

1. Hartwell Park (all trees inventoried)
2. Street Trees (all trees inventoried except Charles Street 'natural area')
3. Cottonwood Park (also includes short strip of street trees east of Lena Street on south side of Moffat Street)(all trees inventoried except those under 20" DBH in the natural area along the creek)

Units Inventoried in 2015

1. Street Trees (continued and includes Heritage Park)
2. Rollans Park (all trees inventoried where human traffic was greatest – GOCO amphitheater and at entrance area off Sherman Street)
3. Athletic Park (all tree inventoried)
4. Dennis Weaver Memorial (only cottonwood trees at far north end of sidewalk and one tree over picnic table on west side of river were inventoried-other areas considered natural area)
5. Industrial Park Right of Way & Green Street Right of Way (contained trees of such similar species and condition that an individual tree inventory was not deemed necessary)

Data for trees within all units was collected in the field using Trimble's Juno 3B handheld Global Positioning System (GPS). ArcMap 10 was used at the office for mapping and the creation of the database. ArcMap 10 is the main component of ESRI's ArcGIS suite of geospatial processing programs, and is used primarily to view, edit, create, and analyze geospatial data. ArcMap 10 allows the user to explore data within a data set, symbolize features accordingly, and create maps. By using this software program, the ArcMap 10 tree inventory database can be exported and more easily manipulated for analytical purposes in Microsoft Excel. From Excel, reports, spreadsheet summaries, charts and graphs can be created. The tables and graphs within this document are a product of these software applications. The maps were created in ArcMap 10 utilizing the compiled inventory data that resides within the ArcMap 10 database.

CSFS strives to create a product that will be useful for many years and has the ability to be continually updated and relevant to the town's needs. This database is intended to act as a living document. Tree work on any tree in any unit

can be documented and kept current, such as tree removals, new plantings or pruning work. These changes need to be made directly to the database, not the spreadsheets. If the town should have the resources to manage their database themselves through an experienced ArcMap user, they can certainly do so. Until then, it is recommended that CSFS handle these updates to maintain the integrity of the database until the next scheduled re-inventory.

Many attributes of each inventoried tree were collected within each designated unit in order to compile baseline data whereby change can be tracked and management can be adapted. With this base data, a value was then calculated for each tree. A tree risk assessment, following guidelines established by the Colorado Tree Coalition, was also conducted. These tree values, risk assessments and data analysis are all compiled within this document with all pertinent reference materials and comprehensive management recommendations.

In some units, the tree count was too high, making it cost prohibitive to inventory each tree at this time. Some of these units were defined as 'natural areas' where a tree count by species was conducted on all trees under 20" in DBH (Diameter at Breast Height). These units are Cottonwood Park and one street within the Street Tree Unit called Charles Street. In other units a general stand condition description was written because the natural areas were too large to do a tree count of those under 20" DBH. These units are the Rollans Park Unit and Dennis Weaver Memorial Unit. All trees 20" in DBH and over in these units were fully inventoried and had a risk assessment completed. As stated previously, Industrial Park and Green Street Right of Way Unit was not inventoried because most of the trees are of the same species and same condition. A general unit description and associated management recommendations are provided for this unit.

Tree Inventory Data Fields

Below are the raw tree inventory data fields for the tree inventory database (highlights indicate actual field name):

OBJECTID*: This is a unique number that ties the tree to GPS coordinates for map plotting purposes.

Data_Collector: Person who collected the data for that tree.

Unit: Where in the town, the tree is located:

- -Cottonwood Park
- -Hartwell Park
- -Street Trees (including trees within Heritage Park)
- -Athletic Park
- -Rollans Park
- -Dennis Weaver Memorial
- -Industrial Park and Green Street Right of Way

Tree_ID: Tree # per Unit.

Species: The species of the tree.

Species_Other: This field was used if the tree was identified as a species other than what was selectable in the database or if a more specific species variety could be determined.

DBH: DBH stands for Diameter at Breast Height and is a measurement of the trunk diameter at 4.5 feet above ground. If the tree had multiple stems, the largest stem was measured.

Condition: The choices were Excellent, Good, Fair, Poor, Very Poor and Dead.

The Condition categories are subjective and can depend on the person taking the information. As a rule, most data collectors avoid the 'Excellent' category. Most trees are placed in the Good category, unless the tree's condition is truly superior to the other trees they have inventoried.

Trees rated as Fair would have some of the following issues: stagnant growth pattern, poor vigor, uneven growth pattern, minor trunk damage, deadwood, etc.

Trees rated as Poor would exhibit some of the same issues as above but the problem or condition is more advanced than a tree with a Fair rating.

Very Poor trees are usually barely alive, very ugly specimens, heavily damaged or are being severely impacted by insect or disease. These trees are often recommended for removal.

Placement: The choices were Excellent, Good, Fair, Poor and Very Poor.

The Placement categories are subjective and can depend on the person taking the information. As a rule, most data collectors avoid the 'Excellent' category. Most trees are placed in the Good category, unless the tree's placement is truly superior to the other trees they have inventoried.

Trees rated as Fair would have some of the following issues: close proximity to other vegetation or structures that impede normal growth habits, have the potential to negatively impact street right-of-ways or sidewalks in the future or are growing beneath an overhead line but have not yet made contact.

Trees rated as Poor would exhibit some of the same issues as above but the problem or placement is worse than a tree having a Fair rating.

Very Poor trees are planted where they are currently creating problems for infrastructure items like sidewalks or overhead lines. These trees can also negatively impact pedestrian or vehicle safety. These trees are often recommended for removal.

Live_Crown_Ratio:

From tree top to crown base, the percent of live foliage.

Surface_Treatment: The choices were Mulch, Rock, Bare Ground, Weeds, Cutout, Watered Grass, Un-watered Grass, Other.

This information will help the town determine whether different surface treatments are working in favor of the tree or against it.

Water_Source: The choices were Sprinkler, Drip line, Flood, Hose, Manual (hose/bucket), Ditch/Creek and None. The tree's primary water source was based upon what could be found the day of the inspection.

Water_Source_Quality: The choices were Adequate, Inadequate, Excessive and None. Adequacy of the determined water source was determined by exhibited tree signs and symptoms of water-related stress.

Growth_Obstruction: The choices were Adjacent Vegetation, Cables, Curb/Pavement, Guards, Overhead wires, Signs, Stakes, Structures, Wires/Ties, Nothing.

Soil_Problems: Choices were Compacted, Drainage, Droughty, Fertility and Shallow.

Pest: Insects and diseases that were negatively impacting the tree.

Pest_Other: If there were more than one pest affecting a tree it was noted here.

Mgmt_01: (stands for Management Need Priority One): All Community forest trees need management as they establish, mature and are eventually removed from the landscape. The 'management need' question identifies the most pressing need the tree has at the time of the inventory. In some cases, the tree may be doing well and does not need management but would benefit from being put on a pruning rotation for future management. Below are the different management needs that may have been selected for any given tree.

Defective Prune

The tree needs a one-time corrective action to eliminate a serious problem. The call for a defective prune is usually instigated by the presence of a nearby target. Targets include benches, playgrounds, sidewalks or streets. Some examples of defective pruning include hanging dead branches two inches or larger in diameter, cracked branches, extreme trunk lean, large deadwood and/or co-dominant trunks that could fail. Immediate action to mitigate the defect is recommended. (See Appendix A for photographic examples)

Routine Prune

Normal periodic pruning is suggested to maintain scaffold branching, lifting the crown height, eliminate branches that will soon conflict with each other, remove small deadwood, trunk sprouts or root collar suckers. (See appendix A for photographic examples)

Clearance Prune

Pruning is needed to prevent damage to personal property or injury to people. This tree management need addresses public safety. The standard branch height over streets is 13 feet and a branch height of 8 feet over sidewalks. Trees or branches must not block public safety signs. (See appendix A for photographic examples)

Structure Prune

Pruning is needed to correct a structural, aesthetic or tree health problem. The problem does not pose an immediate threat to the public or personal property, however, if left alone the problem will not disappear. Examples include crossing branches, multiple stems, pruning stubs, included bark, scaffold branches too close to each other, no central leader and/or an unbalanced growth pattern. (See appendix A for photographic examples)

Cultural Treatment

This need is chosen when the tree's health would be improved by adding fertilizer or the growing site needs to be mitigated (e.g., soil compaction, girdling roots). Although the need is not immediate, the tree would benefit from further inspection to determine how to improve the existing situation.

Mitigate Space

An object is in close proximity or in the tree's growing path and is interfering with the tree. This object can be either man-made or natural and either the tree or the object should be removed.

Mitigate Water

Adequacy of the water source needs to be addressed in some way.

Monitor

The tree is in overall good condition. However, the tree has an issue that should be documented and watched to ensure it does not worsen, causing the tree to decline rapidly or fail.

Protect

The tree is being damaged by existing external factors such as people. Examples include tree grates, girdling roots, weed barrier fabric, wires or ties and caging. Deer or other animal damage would also fall into this management need. Action is needed to mitigate and/or prevent future damage.

Remove

This tree is either dead or in very poor health due to poor planting, level of existing care, over-crowding, pests or people abuse. It would be prudent to remove it from the growing site. Trees harboring aggressive or nuisance pests should be removed as soon as possible.

Treat Disease

There is physical evidence of a disease when the tree was inventoried (e.g. bacterial wetwood, canker).

Treat Insects

There is physical evidence of an insect when the tree was inventoried. Identification and control recommendations will be discussed in the inventory report.

Inspect

Further inspection is needed to determine a management need. Oftentimes this involves a more thorough inspection for the extent of decay.

Do Nothing and Other

Mgmt_01_Comment: This field allows room for a description of the Management Need Priority One.

Mgmt_02 and **Mgmt_02_Comment** and **Mgmt_03** and **Mgmt_03_Comment:** Where multiple management needs and associated comments were noted.

Likelihood_Failure, Likelihood_Target_Impact, Consequences_Failure, Subtotal_01, Target, Species_Management, Action, Subtotal_02 :These are risk rating factors for all trees 20 inches in DBH and above. See Appendix C for rating criteria and associated risk values.

Mitigation: Recommended mitigation measures to improve the tree.

Date_Inspected: The date the tree was inspected.

A complete data table for all units, all trees and all their data is included on a CD in Appendix D.

Tree Values

After data was collected in the field and downloaded in the office, a tree value was calculated for each tree. The purpose of placing a value on each tree gives managers perspective on where to set higher priorities for management when funds, personnel and/or time is limited. Appendix B shows how these values were calculated and gives an example. In each separate unit description to follow in this report, you will see tables showing the value for each tree from lowest to highest.

Tree Risk Ratings

Communities that choose to manage their Community forests with tree risk in mind can expect lower frequency and severity of accidents, damage and injury from tree breakage. An ounce of prevention is worth a pound of cure. If the town follows the risk management recommendations in this plan it should reap the benefits of fewer expenditures for claims, legal expenses and the town should realize healthier, longer-lived Community trees with fewer annual tree removals.

People or property in close proximity to a tree at risk for failure are considered ‘targets.’ This is an important concept to understand because not all high risk trees, especially those in ‘natural areas’ should be automatically marked for removal. If they should fail, isolated trees and/or trees growing in natural areas may not cause any damage to people or property if they fail, so there may be no reason to remove them.

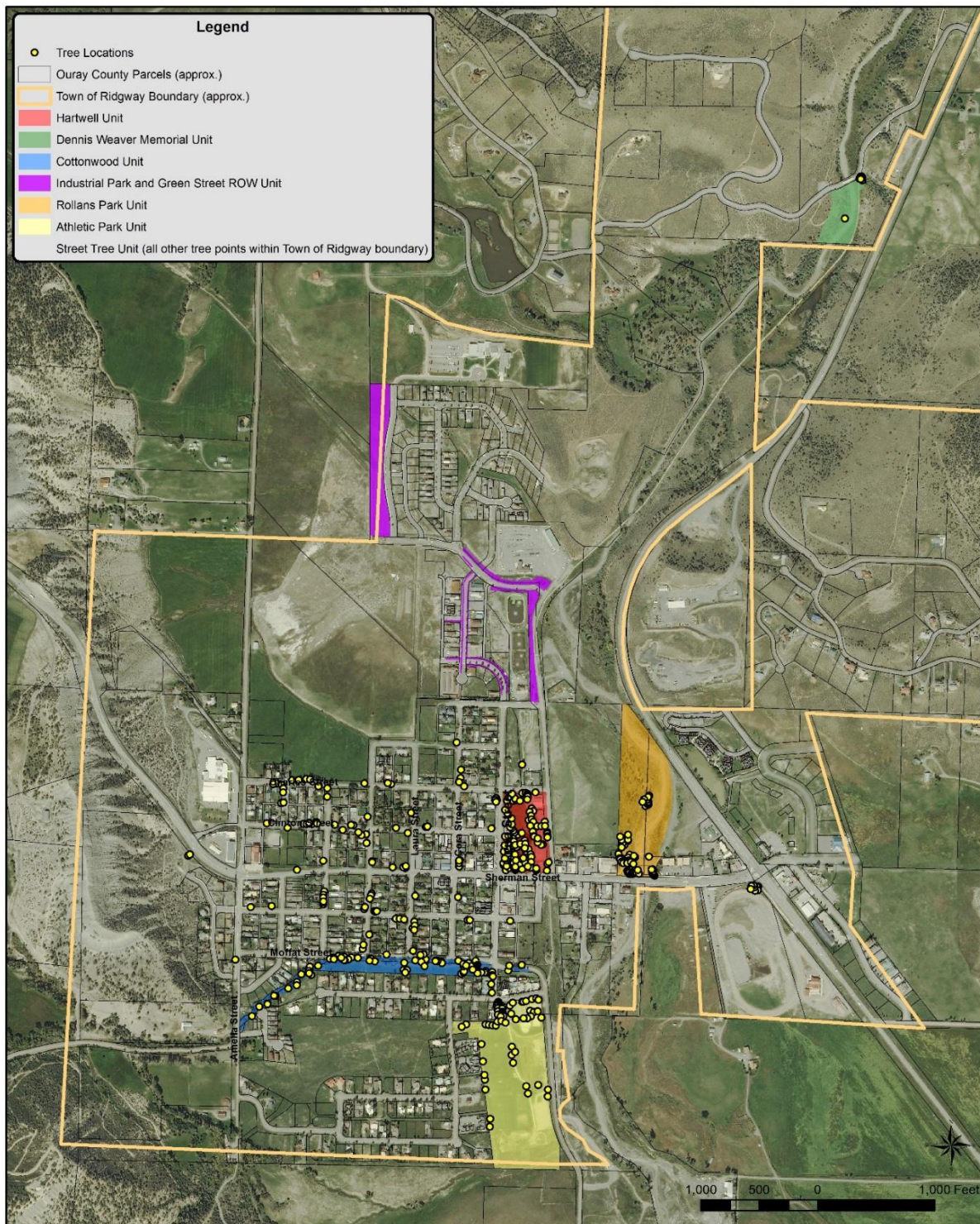
Appendix C shows the specific risk rating criteria that was used during the inventory of all trees over 20” in DBH. The higher the total of all the individual risk ratings, the higher risk the tree poses to targets. In each separate unit description to follow in this report, you will find tables showing the risk ratings for all inventoried trees over 20” in DBH. Keep in mind that a risk rating of 24 is the worst rating a tree can get. The worst rated tree was Street Tree ID #13 with a risk rating of 21.

This plan should be annually consulted prior to implementing any tree management. The database should be, at a minimum, updated annually with completed risk mitigation work on high hazard trees. This will show the public that the town has been diligent with performing what risk mitigation work it can afford on the trees for which it is responsible. Trees identified as needing to be removed due to its hazard rating, or needing a defective pruning and/or needing an inspection for sound wood or percent decay are all very high concerns and should be addressed this next year if finances allow.

Tree Inventory Maps and Data for All Units

Map of Inventoried Units and Tree Locations

Inventoried Units and Tree Locations



Tree Count Table by Unit

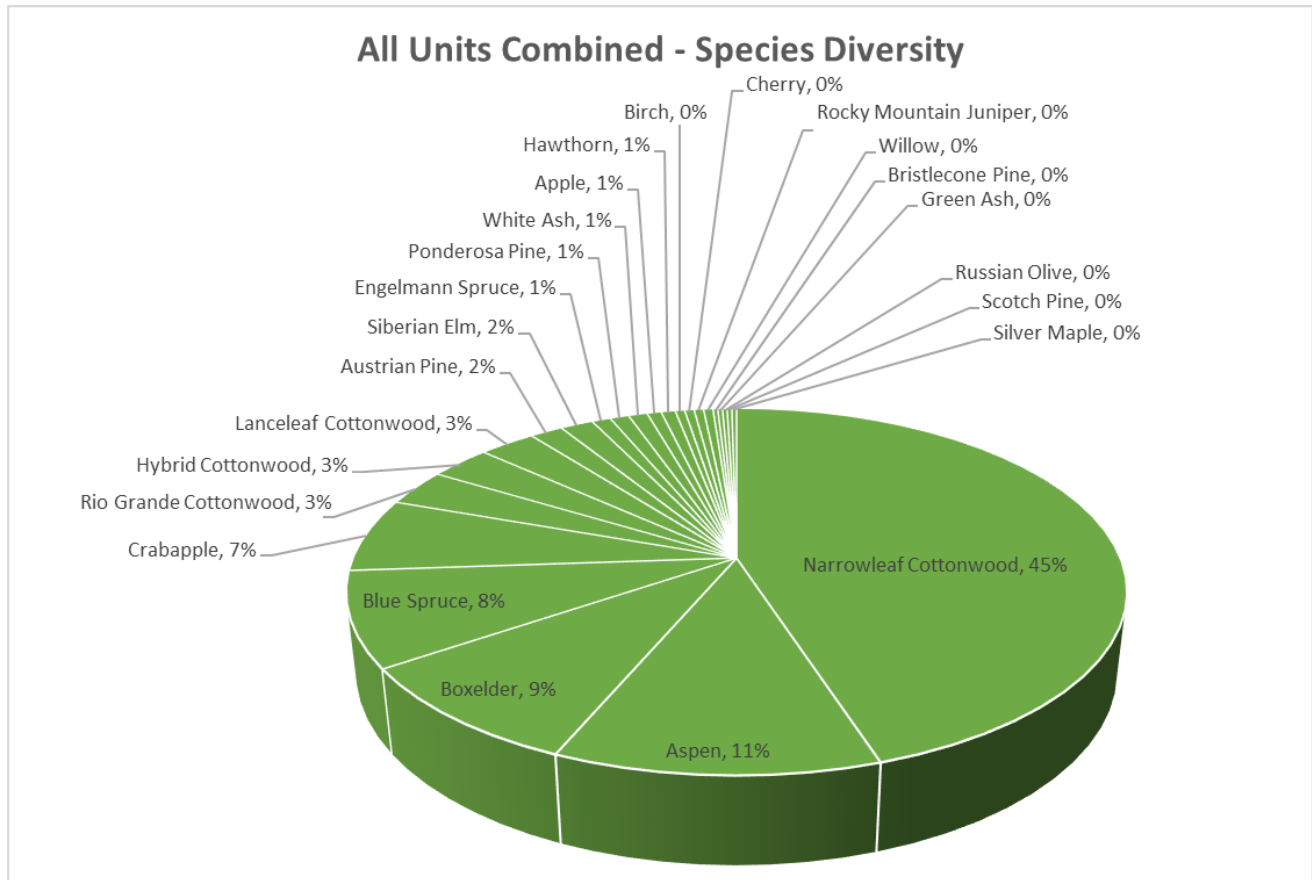
You will see from the totals and percentages of each species per unit table and pie chart below, that there is limited species diversity across all units and especially in the Cottonwood Unit.

Hartwell Park Unit	
Species	Count
Narrowleaf Cottonwood	37
Aspen	21
Crabapple	14
Rio Grande Cottonwood	14
Blue Spruce	10
Hybrid Cottonwood	4
Apple	2
Cherry	2
Hawthorn	2
Lanceleaf Cottonwood	2
Austrian Pine	1
Engelmann Spruce	1
Russian Olive	1
Total in Unit	111
Street Tree Unit	
Species	Count
Boxelder	39
Narrowleaf Cottonwood	33
Aspen	12
Siberian Elm	7
Crabapple	7
Blue Spruce	5
Engelmann Spruce	3
Hybrid Cottonwood	3
Lanceleaf Cottonwood	2
Juniper (upright)	2
Apple	1
Green Ash	1
Hawthorn	1
Austrian Pine	1
Total in Unit	117
Cottonwood Park Unit	
Species	Count
Narrowleaf Cottonwood	65

Lanceleaf Cottonwood	2
Ponderosa Pine	2
Blue Spruce	2
Total in Unit	71
Rollans Park Unit	
Species	Count
Narrowleaf Cottonwood	40
Blue Spruce	11
White Ash	4
Ponderosa Pine	2
Birch	1
Crabapple	1
Lanceleaf Cottonwood	1
Total in Unit	60
Athletic Park Unit	
Species	Count
Aspen	16
Narrowleaf Cottonwood	9
Blue Spruce	8
Crabapple	6
Hybrid Cottonwood	6
Lanceleaf Cottonwood	5
Austrian Pine	5
Willow	2
Birch	1
Silver Maple	1
Bristlecone Pine	1
Scotch Pine	1
Total in Unit	61
Dennis Weaver Memorial Unit	
Species	Count
Narrowleaf Cottonwood	9
Total in Unit	9
Industrial Park & Green Street ROW Unit	
Species	Count
individual trees not inventoried	

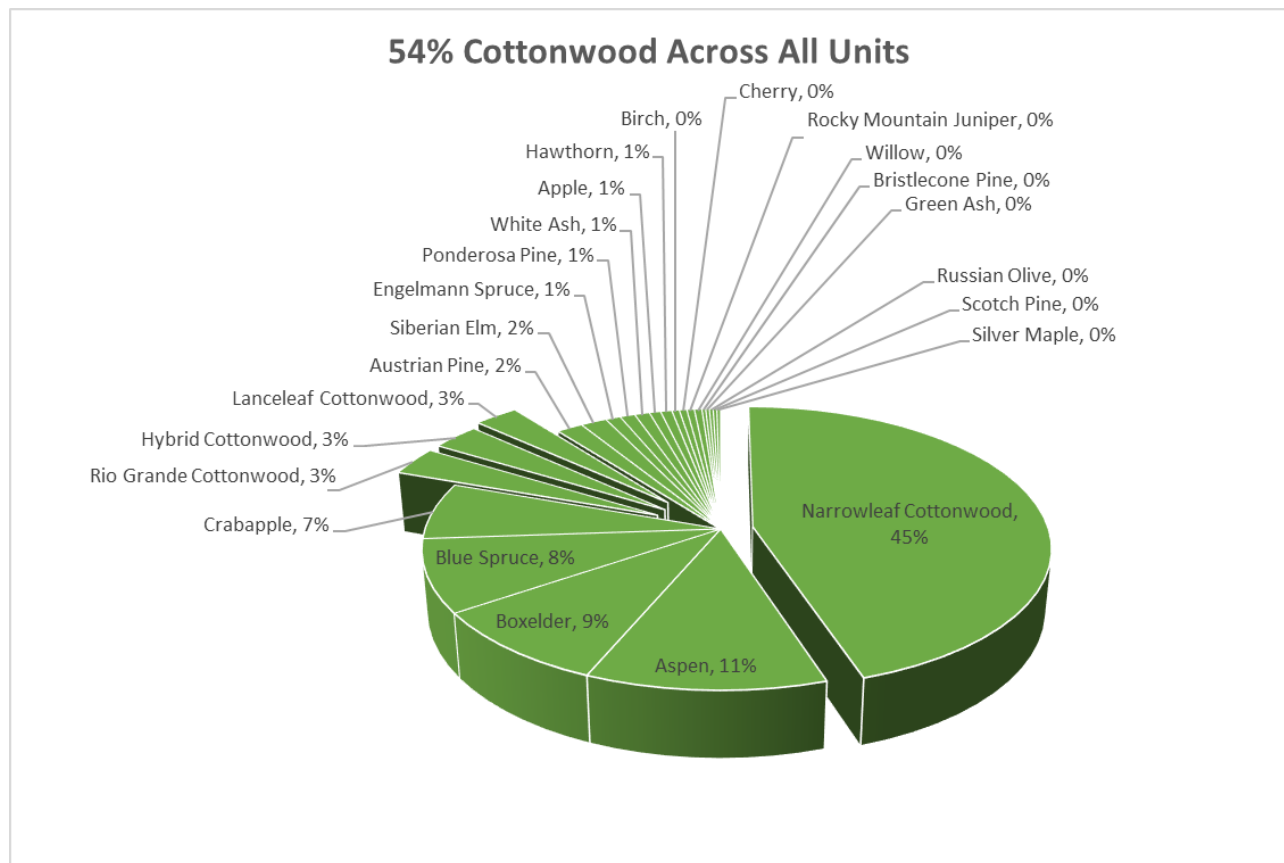
Total Trees Inventoried in All Units = 429

Species Diversity Chart and Table



All Units Combined Tree Count	
Species	Count
Narrowleaf Cottonwood	193
Aspen	49
Boxelder	39
Blue Spruce	36
Crabapple	28
Rio Grande Cottonwood	14
Hybrid Cottonwood	13
Lanceleaf Cottonwood	12
Austrian Pine	7
Siberian Elm	7
Engelmann Spruce	4
Ponderosa Pine	4
White Ash	4

Apple	3
Hawthorn	3
Birch	2
Cherry	2
Rocky Mountain Juniper	2
Willow	2
Bristlecone Pine	1
Green Ash	1
Russian Olive	1
Scotch Pine	1
Silver Maple	1
Total	429



Community forests benefit from species diversity due to improved resistance to insects and disease. In an Community forest, it is optimal to have each species comprise less than 10% of the total forest. Planting large quantities of one tree species means they are susceptible to the same insects and diseases that target that species. This could equate to mass mortality of that species in an Community setting. In the town of Ridgway's case, this would mean 54% loss of Ridgway's Community forest because 54% of its Community forest is cottonwood. For example, if one Ash tree is killed by Emerald Ash Borer, it is likely that any others planted nearby will be killed by Emerald Ash Borer as the insect reproduces and offspring seek new tree to inhabit and kill. If one cottonwood gets Bacterial Wetwood, it is likely that most others nearby will be inoculated with the same bacteria due to their close and contiguous proximity.

The species listed in Appendix F are recommended species to plant in the town of Ridgway. Their recommendation is based upon their plant hardiness zone, whether they've done well in similar locations or would be expected to do well in Ridgway and are characterized with pros and cons. A hardiness zone is a geographically defined area in which plants and trees are capable of growing as defined by climatic conditions, including its ability to withstand the minimum temperatures of the zone. Ridgway's USDA Plant Hardiness Zone is 5b, meaning the town should only plant trees known to be hardy to -10 degrees Fahrenheit. [Plantmaps.com](http://plantmaps.com), with the use of updated climate data through 2010, states Ridgway is in Hardiness Zone 5a, meaning the town should only plant trees known to be hardy to -15 degrees Fahrenheit. Note that the trees recommended in Appendix F, are for Hardiness Zones 2, 3 and 4 which are hardier than what Ridgway's climate requires but should ensure a higher level of survivability. Planting space variations such as water availability, soil, neighboring vegetation, winds and other conditions may also affect the viability of individual trees and should be taken into consideration.

Local Climate Data			
Month	Min F	Max F	Precipitation (In.)
Jan	14	37	.82
Feb	19	41	.65
Mar	25	48	1.37
Apr	32	57	1.19
May	40	68	1.52
Jun	47	79	.93
Jul	53	83	1.95
Aug	52	81	1.88
Sep	45	75	1.42
Oct	34	63	1.54
Nov	24	49	1.27
Dec	15	39	.72
Annual	33	60	15.27
Zip code 81432, Ridgway CO is in USDA Hardiness Zone 5b: -15F to -10F. Using updated climate data through 2010, 81432 is in the Plantmaps Hardiness Zone 5a: -20F to -15F. The average first frost in 81432 is between September 11 - 20, while the average last frost occurs between June 11 - 20. 81432 is part of Ecoregion 20c - Semiarid Benchlands and Canyonlands. 81432 rarely has days where the temperature exceeds 86°F. The average annual high temperature in 81432 is 60°F and the average annual low temperature is 33°F. The average high temperature in July (Summer) is 83°F, while the average high temperature in January (Winter) is 37°F.			

<http://www.plantmaps.com/81432>

Although Ridgway is limited in its ability to diversify its Community tree species because of harsh growing conditions, every effort should be made to plant as many different species as possible. Some listed in Appendix F may fail and there may be some that should be added. To some extent, diversification of Ridgway's Community forest is a trial and error experiment because some of these species have either never been planted in this particular area or their success documented. This species list is a living document and should be updated as experimental plantings repeatedly prove to succeed or fail.

When considering future plantings to broaden the diversity of Ridgway's Community forest, the town should strongly consider establishing an ordinance and lead by example by following them before the town chooses to ratify an ordinance. Appendix I contains a sample ordinance with guidelines for appropriate tree species selection, spacing, distance from curbs and sidewalks, distance from street corners and fire hydrants and distance from utilities such as wires, underground water lines, sewer lines, transmission lines, etc. The guidelines in this simple, sample ordinance are

excellent general guidelines for deciding whether to plant a tree in a given space and what size and species of tree to plant.

Below is a table depicting a summarization of average DBHs, tree values and risk ratings for all units. Note that individual tree data was not acquired for all trees in Cottonwood Park, Rollans Park, Dennis Weaver Memorial and Industrial Park & Green Street Right of Way. As mentioned previously, there are areas within these units that were considered 'natural areas' or contained such similar trees with similar conditions they did not warrant a full tree inventory and therefore, will not have averages in the table below.

Table of Averages

Averages								
	Hartwell	Street Tree	Cottonwood	Rollans Park	Athletic Park	Dennis Weaver Memorial Unit	Industrial Park & Green Street ROW***	Total Averages
Average Size (DBH)	17	17	22*	10	6	14		14
Average Value	\$6,132	\$4,590	\$6,121*	\$1,945	\$607	\$1,894		\$3,548
Average Risk Rating**	15	14	13	13	14	17		14

*note that only trees over 20" DBH were measured in the Cottonwood Unit because of the excessively high volume of trees. If every tree of all diameters were measured, the average DBH and the average value would be lower.

**Only trees 20" dbh and greater were considered in this average. The highest risk rating possible is 24.

***Industrial Park & Green Street ROW trees were not individually inventoried. All were under 20" in dbh.

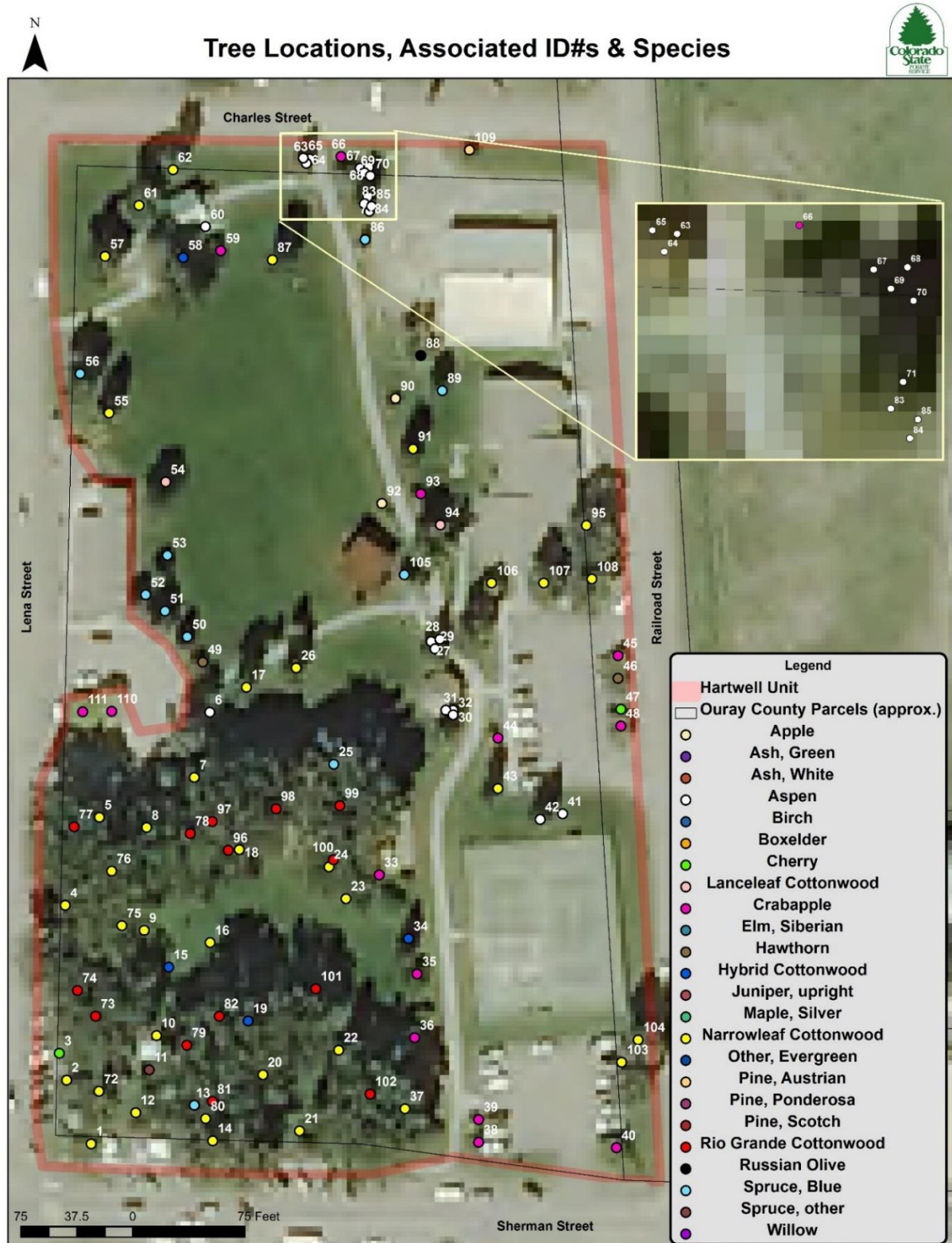
Top Ten Biggest Trees in Ridgway

Top Ten Biggest Trees in the Town of Ridgway			
Unit	Tree ID#	Species	Average DBH
Hartwell Park	74	Rio Grande Cottonwood	50.0
Hartwell Park	98	Rio Grande Cottonwood	50.0
Hartwell Park	99	Rio Grande Cottonwood	50.0
Cottonwood Park	47	Narrowleaf Cottonwood	52.0
Street Trees	46	Narrowleaf Cottonwood	54.0
Street Trees	104	Narrowleaf Cottonwood	54.0
Hartwell Park	77	Rio Grande Cottonwood	58.0
Hartwell Park	82	Rio Grande Cottonwood	60.0
Hartwell Park	102	Rio Grande Cottonwood	64.0
Hartwell Park	73	Rio Grande Cottonwood	66.0

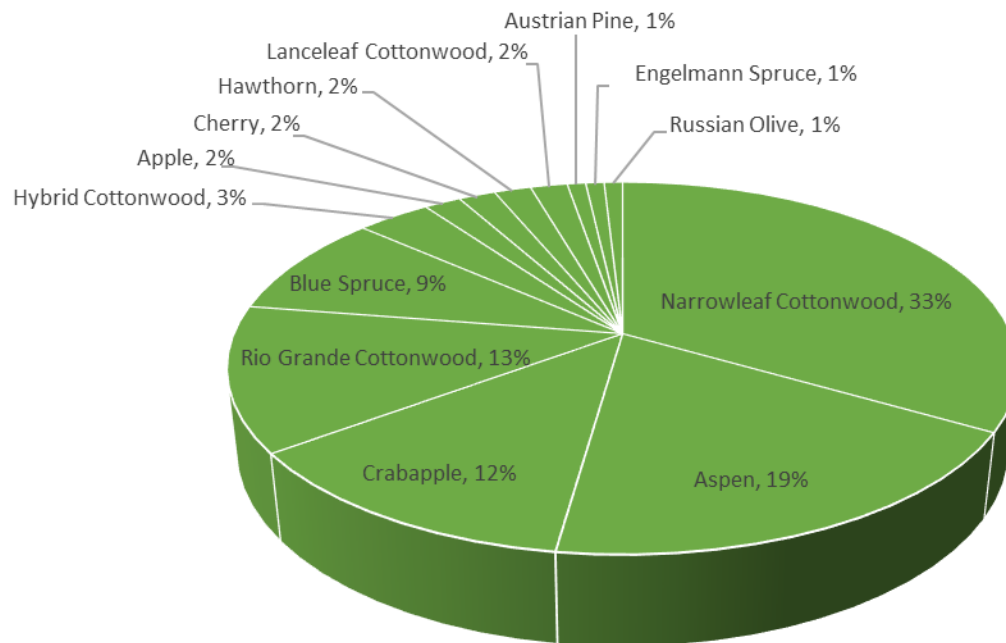
Tree Pests of Concern

Tree Pests of Concern and Frequency of Occurrence	
Pest	Frequency of Occurrence
Bacterial Wetwood	183
Canker (other)	9
Oystershell Scale	8
Cytospora Canker	8
Poplar Borer	8
Poplar Twig gall Fly	7
Damage caused by Deer	6
Cooley Spruce Galls	5
Damage by weed whacker	5
White Pine Tip Weevil	5
Spider Mites	3
Mechanical damage	3
Leaf Spot	3
Western Spruce Budworm	3
Aphids	2
Needle Scale	2
Boxelder Bug	2
Chemical	1
Sunscald	1
Sapsucker	1
Leafhopper	1
Fire Blight	1
Kids	1
Sapsucker	1
Target Canker	1
Wind Damage	1

HARTWELL PARK - Unit Maps, Tables and Charts



Hartwell Park Unit - Species Diversity



Hartwell Park Unit Individual Tree Values

Unit	Tree ID	Species	Species Ot	Species Factor	Basic Price	DBH	Ave DBH	Condition	Condition Factor	Placement	Placement Factor	Value
Hartwell Park	92	Apple		0.75	\$64	0.1-2.9	1.5	Good	0.8	Good	0.8	\$54
Hartwell Park	93	Crabapple		0.75	\$64	0.1-2.9	1.5	Good	0.8	Good	0.8	\$54
Hartwell Park	85	Aspen		0.55	\$50	3.0-4.9	4.0	Fair	0.7	Poor	0.5	\$121
Hartwell Park	67	Aspen		0.55	\$50	3.0-4.9	4.0	Fair	0.7	Fair	0.7	\$169
Hartwell Park	68	Aspen		0.55	\$50	3.0-4.9	4.0	Fair	0.7	Fair	0.7	\$169
Hartwell Park	69	Aspen		0.55	\$50	3.0-4.9	4.0	Fair	0.7	Fair	0.7	\$169
Hartwell Park	70	Aspen		0.55	\$50	3.0-4.9	4.0	Fair	0.7	Fair	0.7	\$169
Hartwell Park	3	Cherry	red leaf choke cherry	0.75	\$68	3.0-4.9	4.0	Fair	0.7	Poor	0.5	\$224
Hartwell Park	88	Russian Olive		0.50	\$45	9.0-10.9	10.0	Good	0.8	Liability	0.2	\$283
Hartwell Park	47	Cherry	choke	0.75	\$68	3.0-4.9	4.0	Fair	0.7	Good	0.8	\$359
Hartwell Park	64	Aspen		0.55	\$50	5.0-6.9	6.0	Fair	0.7	Fair	0.7	\$381
Hartwell Park	90	Apple		0.75	\$64	3.0-4.9	4.0	Good	0.8	Good	0.8	\$386
Hartwell Park	38	Crabapple		0.75	\$64	3.0-4.9	4.0	Good	0.8	Excellent	0.9	\$434
Hartwell Park	39	Crabapple	spring snow	0.75	\$64	3.0-4.9	4.0	Good	0.8	Excellent	0.9	\$434
Hartwell Park	44	Crabapple		0.75	\$64	3.0-4.9	4.0	Good	0.8	Excellent	0.9	\$434
Hartwell Park	63	Aspen		0.55	\$50	7.0-8.9	8.0	Poor	0.5	Fair	0.7	\$484
Hartwell Park	8	Narrowleaf Cottonwood		0.60	\$41	7.0-8.9	8.0	Good	0.8	Poor	0.5	\$494
Hartwell Park	11	Spruce, other	Engelmann	0.75	\$50	5.0-6.9	6.0	Fair	0.7	Fair	0.7	\$519
Hartwell Park	109	Pine, Austrian		0.75	\$44	5.0-6.9	6.0	Good	0.8	Good	0.8	\$597
Hartwell Park	29	Aspen		0.55	\$50	7.0-8.9	8.0	Fair	0.7	Fair	0.7	\$677
Hartwell Park	83	Aspen		0.55	\$50	7.0-8.9	8.0	Fair	0.7	Fair	0.7	\$677
Hartwell Park	14	Narrowleaf Cottonwood		0.60	\$41	7.0-8.9	8.0	Good	0.8	Fair	0.7	\$692
Hartwell Park	24	Narrowleaf Cottonwood		0.60	\$41	9.0-10.9	10.0	Good	0.8	Poor	0.5	\$772
Hartwell Park	28	Aspen		0.55	\$50	7.0-8.9	8.0	Good	0.8	Fair	0.7	\$774
Hartwell Park	30	Aspen		0.55	\$50	7.0-8.9	8.0	Good	0.8	Fair	0.7	\$774
Hartwell Park	31	Aspen		0.55	\$50	7.0-8.9	8.0	Good	0.8	Fair	0.7	\$774
Hartwell Park	65	Aspen		0.55	\$50	7.0-8.9	8.0	Good	0.8	Fair	0.7	\$774
Hartwell Park	84	Aspen		0.55	\$50	7.0-8.9	8.0	Good	0.8	Fair	0.7	\$774
Hartwell Park	106	Narrowleaf Cottonwood		0.60	\$41	7.0-8.9	8.0	Good	0.8	Good	0.8	\$791
Hartwell Park	66	Crabapple		0.75	\$64	5.0-6.9	6.0	Good	0.8	Good	0.8	\$868
Hartwell Park	6	Aspen		0.55	\$50	7.0-8.9	8.0	Good	0.8	Excellent	0.9	\$995
Hartwell Park	9	Narrowleaf Cottonwood		0.60	\$41	9.0-10.9	10.0	Good	0.8	Fair	0.7	\$1,081
Hartwell Park	27	Aspen		0.55	\$50	9.0-10.9	10.0	Good	0.8	Fair	0.7	\$1,209
Hartwell Park	32	Aspen		0.55	\$50	9.0-10.9	10.0	Good	0.8	Fair	0.7	\$1,209
Hartwell Park	71	Aspen		0.55	\$50	9.0-10.9	10.0	Good	0.8	Fair	0.7	\$1,209
Hartwell Park	4	Narrowleaf Cottonwood		0.60	\$41	9.0-10.9	10.0	Good	0.8	Good	0.8	\$1,236
Hartwell Park	16	Narrowleaf Cottonwood		0.60	\$41	9.0-10.9	10.0	Good	0.8	Good	0.8	\$1,236
Hartwell Park	86	Spruce, Blue		0.85	\$50	7.0-8.9	8.0	Good	0.8	Good	0.8	\$1,367
Hartwell Park	41	Aspen		0.55	\$50	9.0-10.9	10.0	Good	0.8	Good	0.8	\$1,382
Hartwell Park	42	Aspen		0.55	\$50	9.0-10.9	10.0	Good	0.8	Good	0.8	\$1,382
Hartwell Park	35	Crabapple		0.75	\$64	7.0-8.9	8.0	Good	0.8	Good	0.8	\$1,543
Hartwell Park	45	Crabapple		0.75	\$64	7.0-8.9	8.0	Good	0.8	Good	0.8	\$1,543
Hartwell Park	48	Crabapple		0.75	\$64	7.0-8.9	8.0	Good	0.8	Good	0.8	\$1,543
Hartwell Park	59	Crabapple		0.75	\$64	7.0-8.9	8.0	Good	0.8	Good	0.8	\$1,543
Hartwell Park	34	Hybrid Cottonwood		0.60	\$41	11.0-12.9	12.0	Fair	0.7	Good	0.8	\$1,557
Hartwell Park	15	Hybrid Cottonwood		0.60	\$41	11.0-12.9	12.0	Good	0.8	Fair	0.7	\$1,557
Hartwell Park	19	Hybrid Cottonwood		0.60	\$41	11.0-12.9	12.0	Good	0.8	Fair	0.7	\$1,557
Hartwell Park	10	Narrowleaf Cottonwood		0.60	\$41	11.0-12.9	12.0	Good	0.8	Fair	0.7	\$1,557
Hartwell Park	60	Aspen		0.55	\$50	11.0-12.9	12.0	Good	0.8	Fair	0.7	\$1,741
Hartwell Park	46	Hawthorn	craetagus rivularis	0.80	\$69	7.0-8.9	8.0	Good	0.8	Good	0.8	\$1,775
Hartwell Park	5	Narrowleaf Cottonwood		0.60	\$41	11.0-12.9	12.0	Good	0.8	Good	0.8	\$1,780
Hartwell Park	20	Narrowleaf Cottonwood		0.60	\$41	11.0-12.9	12.0	Good	0.8	Good	0.8	\$1,780
Hartwell Park	23	Narrowleaf Cottonwood		0.60	\$41	11.0-12.9	12.0	Good	0.8	Good	0.8	\$1,780
Hartwell Park	12	Narrowleaf Cottonwood		0.60	\$41	13.0-14.9	14.0	Good	0.8	Fair	0.7	\$2,120
Hartwell Park	13	Spruce, Blue		0.85	\$50	9.0-10.9	10.0	Good	0.8	Good	0.8	\$2,135
Hartwell Park	53	Spruce, Blue		0.85	\$50	9.0-10.9	10.0	Good	0.8	Excellent	0.9	\$2,402
Hartwell Park	33	Crabapple		0.75	\$64	9.0-10.9	10.0	Good	0.8	Good	0.8	\$2,412
Hartwell Park	36	Crabapple		0.75	\$64	9.0-10.9	10.0	Good	0.8	Good	0.8	\$2,412
Hartwell Park	110	Crabapple		0.75	\$64	9.0-10.9	10.0	Good	0.8	Good	0.8	\$2,412
Hartwell Park	111	Crabapple		0.75	\$64	9.0-10.9	10.0	Good	0.8	Good	0.8	\$2,412
Hartwell Park	22	Narrowleaf Cottonwood		0.60	\$41	13.0-14.9	14.0	Good	0.8	Good	0.8	\$2,422
Hartwell Park	49	Hawthorn		0.80	\$69	9.0-10.9	10.0	Fair	0.7	Good	0.8	\$2,427
Hartwell Park	40	Crabapple	spring snow	0.75	\$64	9.0-10.9	10.0	Good	0.8	Excellent	0.9	\$2,713
Hartwell Park	7	Narrowleaf Cottonwood		0.60	\$41	13.0-14.9	14.0	Good	0.8	Excellent	0.9	\$2,725
Hartwell Park	43	Narrowleaf Cottonwood		0.60	\$41	13.0-14.9	14.0	Good	0.8	Excellent	0.9	\$2,725
Hartwell Park	37	Narrowleaf Cottonwood		0.60	\$41	15.0-16.9	16.0	Good	0.8	Fair	0.7	\$2,768
Hartwell Park	50	Spruce, Blue		0.85	\$50	11.0-12.9	12.0	Good	0.8	Good	0.8	\$3,075
Hartwell Park	17	Narrowleaf Cottonwood		0.60	\$41	15.0-16.9	16.0	Good	0.8	Good	0.8	\$3,164
Hartwell Park	21	Narrowleaf Cottonwood		0.60	\$41	15.0-16.9	16.0	Good	0.8	Good	0.8	\$3,164
Hartwell Park	62	Narrowleaf Cottonwood		0.60	\$41	15.0-16.9	16.0	Good	0.8	Good	0.8	\$3,164
Hartwell Park	2	Narrowleaf Cottonwood		0.60	\$41	15.0-16.9	16.0	Good	0.8	Excellent	0.9	\$3,559
Hartwell Park	26	Narrowleaf Cottonwood		0.60	\$41	15.0-16.9	16.0	Good	0.8	Excellent	0.9	\$3,559
Hartwell Park	91	Narrowleaf Cottonwood		0.60	\$41	15.0-16.9	16.0	Good	0.8	Excellent	0.9	\$3,559

Hartwell Park Unit Individual Tree Values (continued)

Unit	Tree_ID	Species	Species_Ot	Species Factor	Basic Price	DBH	Ave DBH	Condition	Condition Factor	Placement	Placement Factor	Value
Hartwell Park	18	Narrowleaf Cottonwood		0.60	\$41	17.0-18.9	18.0	Good	0.8	Good	0.8	\$4,004
Hartwell Park	56	Spruce, Blue		0.85	\$50	13.0-14.9	14.0	Good	0.8	Good	0.8	\$4,185
Hartwell Park	54	Cottonwood	lanceleaf	0.60	\$41	17.0-18.9	18.0	Good	0.8	Excellent	0.9	\$4,505
Hartwell Park	87	Narrowleaf Cottonwood		0.60	\$41	17.0-18.9	18.0	Good	0.8	Excellent	0.9	\$4,505
Hartwell Park	89	Spruce, Blue		0.85	\$50	13.0-14.9	14.0	Good	0.8	Excellent	0.9	\$4,708
Hartwell Park	25	Spruce, Blue		0.85	\$50	15.0-16.9	16.0	Good	0.8	Fair	0.7	\$4,783
Hartwell Park	52	Spruce, Blue		0.85	\$50	15.0-16.9	16.0	Good	0.8	Fair	0.7	\$4,783
Hartwell Park	105	Spruce, Blue		0.85	\$50	15.0-16.9	16.0	Good	0.8	Fair	0.7	\$4,783
Hartwell Park	1	Narrowleaf Cottonwood		0.60	\$41	19.0-20.9	20.0	Good	0.8	Good	0.8	\$4,944
Hartwell Park	108	Narrowleaf Cottonwood		0.60	\$41	21.0-22.9	22.0	Fair	0.7	Good	0.8	\$5,234
Hartwell Park	57	Narrowleaf Cottonwood		0.60	\$41	21.0-22.9	22.0	Good	0.8	Good	0.8	\$5,982
Hartwell Park	94	Cottonwood	lanceleaf	0.60	\$41	23.0-24.9	24.0	Fair	0.7	Good	0.8	\$6,229
Hartwell Park	55	Narrowleaf Cottonwood		0.60	\$41	21.0-22.9	22.0	Good	0.8	Excellent	0.9	\$6,729
Hartwell Park	51	Spruce, Blue		0.85	\$50	17.0-18.9	18.0	Good	0.8	Good	0.8	\$6,918
Hartwell Park	58	Hybrid Cottonwood		0.60	\$41	23.0-24.9	24.0	Good	0.8	Good	0.8	\$7,119
Hartwell Park	61	Narrowleaf Cottonwood		0.60	\$41	23.0-24.9	24.0	Good	0.8	Good	0.8	\$7,119
Hartwell Park	95	Narrowleaf Cottonwood		0.60	\$41	23.0-24.9	24.0	Good	0.8	Good	0.8	\$7,119
Hartwell Park	103	Narrowleaf Cottonwood		0.60	\$41	23.0-24.9	24.0	Good	0.8	Good	0.8	\$7,119
Hartwell Park	104	Narrowleaf Cottonwood		0.60	\$41	23.0-24.9	24.0	Good	0.8	Good	0.8	\$7,119
Hartwell Park	107	Narrowleaf Cottonwood		0.60	\$41	23.0-24.9	24.0	Good	0.8	Good	0.8	\$7,119
Hartwell Park	72	Narrowleaf Cottonwood		0.60	\$41	33.0-34.9	34.0	Poor	0.5	Good	0.8	\$8,929
Hartwell Park	75	Narrowleaf Cottonwood		0.60	\$41	33.0-34.9	34.0	Fair	0.7	Good	0.8	\$12,501
Hartwell Park	80	Narrowleaf Cottonwood		0.60	\$41	35.0-36.9	36.0	Fair	0.7	Good	0.8	\$14,015
Hartwell Park	81	Rio Grande Cottonwood		0.60	\$41	37.0-38.9	38.0	Fair	0.7	Good	0.8	\$15,616
Hartwell Park	97	Rio Grande Cottonwood		0.60	\$41	37.0-38.9	38.0	Fair	0.7	Good	0.8	\$15,616
Hartwell Park	78	Rio Grande Cottonwood		0.60	\$41	35.0-36.9	36.0	Good	0.8	Good	0.8	\$16,017
Hartwell Park	79	Rio Grande Cottonwood		0.60	\$41	37.0-38.9	38.0	Good	0.8	Good	0.8	\$17,846
Hartwell Park	76	Narrowleaf Cottonwood		0.60	\$41	39.0-40.9	40.0	Good	0.8	Good	0.8	\$19,774
Hartwell Park	96	Rio Grande Cottonwood		0.60	\$41	39.0-40.9	40.0	Good	0.8	Good	0.8	\$19,774
Hartwell Park	101	Rio Grande Cottonwood		0.60	\$41	39.0-40.9	40.0	Good	0.8	Good	0.8	\$19,774
Hartwell Park	100	Rio Grande Cottonwood		0.60	\$41	45.0-46.9	46.0	Good	0.8	Good	0.8	\$26,152
Hartwell Park	74	Rio Grande Cottonwood		0.60	\$41	49.0-50.9	50.0	Good	0.8	Good	0.8	\$30,898
Hartwell Park	98	Rio Grande Cottonwood		0.60	\$41	49.0-50.9	50.0	Good	0.8	Good	0.8	\$30,898
Hartwell Park	99	Rio Grande Cottonwood		0.60	\$41	49.0-50.9	50.0	Good	0.8	Good	0.8	\$30,898
Hartwell Park	77	Rio Grande Cottonwood		0.60	\$41	57.0-58.9	58.0	Good	0.8	Good	0.8	\$41,576
Hartwell Park	82	Rio Grande Cottonwood		0.60	\$41	59.0-60.9	60.0	Good	0.8	Good	0.8	\$44,493
Hartwell Park	73	Rio Grande Cottonwood		0.60	\$41	65.0-66.9	66.0	Fair	0.7	Good	0.8	\$47,106
Hartwell Park	102	Rio Grande Cottonwood		0.60	\$41	63.0-64.9	64.0	Good	0.8	Good	0.8	\$50,623

Hartwell Park Unit Individual Tree Risk Ratings

Unit	Tree_ID	Species	DBH	Total Risk Rating
Hartwell Park	1	Narrowleaf Cottonwood	19.0-20.9	10
Hartwell Park	55	Narrowleaf Cottonwood	21.0-22.9	11
Hartwell Park	107	Narrowleaf Cottonwood	23.0-24.9	11
Hartwell Park	103	Narrowleaf Cottonwood	23.0-24.9	12
Hartwell Park	104	Narrowleaf Cottonwood	23.0-24.9	12
Hartwell Park	101	Rio Grande Cottonwood	39.0-40.9	12
Hartwell Park	102	Rio Grande Cottonwood	63.0-64.9	12
Hartwell Park	81	Rio Grande Cottonwood	37.0-38.9	13
Hartwell Park	79	Rio Grande Cottonwood	37.0-38.9	13
Hartwell Park	108	Narrowleaf Cottonwood	21.0-22.9	14
Hartwell Park	57	Narrowleaf Cottonwood	21.0-22.9	14
Hartwell Park	58	Hybrid Cottonwood	23.0-24.9	14
Hartwell Park	95	Narrowleaf Cottonwood	23.0-24.9	14
Hartwell Park	78	Rio Grande Cottonwood	35.0-36.9	15
Hartwell Park	76	Narrowleaf Cottonwood	39.0-40.9	15
Hartwell Park	72	Narrowleaf Cottonwood	33.0-34.9	16
Hartwell Park	96	Rio Grande Cottonwood	39.0-40.9	16
Hartwell Park	100	Rio Grande Cottonwood	45.0-46.9	16
Hartwell Park	73	Rio Grande Cottonwood	65.0-66.9	16
Hartwell Park	94	Cottonwood	23.0-24.9	17
Hartwell Park	61	Narrowleaf Cottonwood	23.0-24.9	17
Hartwell Park	74	Rio Grande Cottonwood	49.0-50.9	17
Hartwell Park	77	Rio Grande Cottonwood	57.0-58.9	17
Hartwell Park	75	Narrowleaf Cottonwood	33.0-34.9	18
Hartwell Park	80	Narrowleaf Cottonwood	35.0-36.9	18
Hartwell Park	97	Rio Grande Cottonwood	37.0-38.9	18
Hartwell Park	98	Rio Grande Cottonwood	49.0-50.9	18
Hartwell Park	82	Rio Grande Cottonwood	59.0-60.9	18
Hartwell Park	99	Rio Grande Cottonwood	49.0-50.9	19



Hartwell Park Unit Priority #1 Management Needs



Hartwell Unit - Prioritized Tree Management Needs for Risk Rated Trees											
Unit	Tree_ID	Species	DBH	Mgmt_01	Mgmt_01_Comment	Mgmt_02	Mgmt_02_Comment	Mgmt_03	Mgmt_03_Comment	Total Risk Rating	Notes
Hartwell Park	1	Narrowleaf Cottonwood	19.0-20.9	Clearance Prune	8 ft over walk					10	
Hartwell Park	107	Narrowleaf Cottonwood	23.0-24.9	Protect	weed barrier fabric strangling base	Clearance Prune	lowest one limb nearest building			11	
Hartwell Park	55	Narrowleaf Cottonwood	21.0-22.9	Routine Prune	dead wood					11	
Hartwell Park	101	Rio Grande Cottonwood	39.0-40.9	Inspect	percent decay	Structure Prune	conflicting branches			12	
Hartwell Park	102	Rio Grande Cottonwood	63.0-64.9	Routine Prune		Inspect				12	best big tree in Hartwell
Hartwell Park	103	Narrowleaf Cottonwood	23.0-24.9	Routine Prune						12	
Hartwell Park	104	Narrowleaf Cottonwood	23.0-24.9	Routine Prune						12	
Hartwell Park	81	Rio Grande Cottonwood	37.0-38.9	Defective Prune		Inspect	basal decay			13	
Hartwell Park	79	Rio Grande Cottonwood	37.0-38.9	Routine Prune	small deadwood					13	
Hartwell Park	58	Hybrid Cottonwood	23.0-24.9	Clearance Prune	restroom roof and people's heads					14	
Hartwell Park	95	Narrowleaf Cottonwood	23.0-24.9	Cultural Treatment	girdling root removal	Protect	weed barrier fabric removal			14	
Hartwell Park	108	Narrowleaf Cottonwood	21.0-22.9	Protect	weed barrier fabric strangling base	Routine Prune	dead wood			14	
Hartwell Park	57	Narrowleaf Cottonwood	21.0-22.9	Routine Prune	small dead branches					14	
Hartwell Park	76	Narrowleaf Cottonwood	39.0-40.9	Defective Prune	dead wood					15	evaluate basal decay - see mushrooms
Hartwell Park	78	Rio Grande Cottonwood	35.0-36.9	Defective Prune	conflicting branches and dead wood					15	
Hartwell Park	72	Narrowleaf Cottonwood	33.0-34.9	Defective Prune	dead wood	Monitor				16	
Hartwell Park	73	Rio Grande Cottonwood	65.0-66.9	Inspect	decay extent	Defective Prune				16	cabled; decay in trunk
Hartwell Park	96	Rio Grande Cottonwood	39.0-40.9	Inspect	percent decay	Routine Prune				16	
Hartwell Park	100	Rio Grande Cottonwood	45.0-46.9	Inspect	percent decay	Structure Prune	conflicting branches			16	inspect
Hartwell Park	74	Rio Grande Cottonwood	49.0-50.9	Defective Prune						17	prune out problem - included bark over parking
Hartwell Park	94	Cottonwood	23.0-24.9	Defective Prune	prune broken top to top of N limb					17	prune
Hartwell Park	77	Rio Grande Cottonwood	57.0-58.9	Inspect	decay	Inspect	cabling			17	co-dominants with bark inclusion
Hartwell Park	61	Narrowleaf Cottonwood	23.0-24.9	Structure Prune	included branch					17	remove branch over shelter
Hartwell Park	98	Rio Grande Cottonwood	49.0-50.9	Defective Prune	dead wood	Inspect	percent decay			18	
Hartwell Park	82	Rio Grande Cottonwood	59.0-60.9	Defective Prune	problem branches	Other	decay			18	move tables
Hartwell Park	75	Narrowleaf Cottonwood	33.0-34.9	Defective Prune	dead wood or move table					18	move picnic table
Hartwell Park	97	Rio Grande Cottonwood	37.0-38.9	Inspect	percent decay	Structure Prune	conflicting branches			18	evaluate status of cables and decay
Hartwell Park	80	Narrowleaf Cottonwood	35.0-36.9	Inspect	basal decay					18	mushrooms at base
Hartwell Park	99	Rio Grande Cottonwood	49.0-50.9	Inspect	percent decay	Defective Prune	conflicting branches			19	inspect and prune

Hartwell Park - Unit Description and Management Recommendations

The Hartwell Unit is hands down, the most important unit containing the most important trees to the town of Ridgway. The largest cottonwoods in Hartwell Park participated in a criminal's hanging in the old western movie, "True Grit" with John Wayne. These trees are a historical legacy to the town that absolutely must be maintained. People are attracted to the shade and comfort of the trees. There is a heavily used playground, a stage for frequent musical performances in the summer and a multitude of events are held here under the towering presence of these massive Cottonwoods.

The outer boundaries of this unit are Lena Street, Highway 62 or Sherman Street, N. Railroad Street and Charles Street. A cement walking/biking path cuts the Unit in half running north and south. To the east of the path are Town Hall, the Ridgway Police Station, a tennis court and two parking lots. The post office is positioned half way up the western boundary of the unit and has a secondary path from there to Town Hall, bisecting the primary north/south path mentioned previously. There is a public restroom facility in the northwest corner of the unit with a bisecting walking path that connects to the arterial north/south path previously mentioned. This unit is completely and adequately irrigated with sprinklers and there are absolutely no fertilizers or herbicides used on any vegetation.

111 trees were inventoried in this unit and 29 trees were assigned risk ratings. Species identified within this unit were domestic apple, Aspen, Boxelder, Cherry, Lanceleaf Cottonwood, Crabapple, Hawthorn, Hybrid Cottonwood, Narrowleaf Cottonwood, Austrian Pine, Rio Grande Cottonwood, Russian Olive, Blue Spruce, Engelmann Spruce and willow. This unit had the greatest species diversity of all units, but cottonwood still makes up 51% of the composition.

No monetary value can adequately identify the role the mature cottonwoods play in Hartwell Park. However, tree values were attained and the highest valued trees inventoried reside in Hartwell Park to include Tree ID #102 with a value of \$50,623. The total value of Hartwell Park's trees, is over half a million dollars at \$680,681. This unit also had the highest average risk rating of 15 with 24 being the highest individual tree risk rating possible. This can be attributed to the Park's high frequency of use by targets such as people and vehicles.

Management needs of risk-rated trees within this unit vary, but there are no cottonwood removals necessary at this time. However, eight trees were identified as needing more thorough inspections. Those trees that have "inspection" noted as their primary management need, should have sonic tomograms done to determine quantity and distribution of internal decay. These tests should be backed up with resistance recording drill tests for trees with 75% or more internal decay detected by the tomogram. These tests will need to be done by an ISA certified arborist with the proper tools and training to do so. See Appendix K for more information on sonic tomography and how resistance recording drills work. A current list of contractors that may be able to help with this can be attained by calling the Colorado State Forest Service. In general, be proactive in large cottonwood removals. Don't wait for risky trees to fall. The park is used too much to take a chance on someone getting hurt. In fact, it would be prudent to have an ISA Certified Arborist on retainer to inspect the largest cottonwoods at least once a year and focus on trees with either whole tree or branch failure potential around the playground, any trees with branches over hanging existing parking on N. Lena Street and Highway 62 and all other large cottonwoods in Harwell; in that order of priority.

Another very important management need in this unit are 9 trees needing defective pruning. Most of these "defective pruning" management needs are related to limbs that could fail and fall on people or vehicles so they should be urgently addressed.

The Rio Grande Cottonwoods in Hartwell are currently being taken care of by the Town and Tyler Schultz. A Cobra cabling system has been installed on several trees by Schultz. Several tree that hang over or are near the playground have limbs connected with these Cobra systems. This flexing system of elastic cables helps to stabilize limbs and reduce the probability of breakage while encouraging the tree to increase support of its own limbs. Although cottonwood are prone to donning a lot of dead wood in their crowns, there are no major dead limbs on the cottonwoods in Hartwell Park because they have been actively removed by Schultz. They have been well maintained in general and pruning has been addressed in a proactive manner.

The other two types of cottonwoods in Harwell Park are Narrowleaf and hybrids, which have been planted in and amongst the larger Rio Grande Cottonwoods. Those that were planted under or very

near the crowns of larger trees are exhibiting signs of phototropism which means they are growing away from the larger trees in an effort to attain more necessary sunlight. Cottonwoods are full sun plants and future planting sites need to be situated in positions that will offer full sun now, while the tree is small, as well as throughout the tree's life to its full size potential at maturity. The Narrowleaf Cottonwood planted in the southern half of Hartwell will not exhibit the same broad crowned growth pattern of the existing Rio Grande Cottonwoods partially due to phototropism, but mostly due to genetics and the different crown shape this species exhibits at maturity.

As previously explained, monocultures are generally not recommended in Community forests. However, due to the uniqueness of Hartwell's historical significance and in the interest of perpetuating the majestic nature of the park's encircling Rio Grande Cottonwoods, it is advised to maintain a similar species composition. Propagating the next generation of Rio Grande Cottonwoods should begin now. By identifying male Rio Grande trees in the park and collecting juvenile wood from their upper crowns, the genotype of those specific trees can be perpetuated in replacement trees. Because these are full sun plants, a circle of these propagated Rio Grande Cottonwood trees could be planted in the northern half of Hartwell Park where there is more open space. Large growing spaces are absolutely necessary in order to mimic the broad-crowned growth pattern of the trees that reside in the southern half of Hartwell Park. The largest cottonwoods in Hartwell were planted roughly 125 years ago, so they are over-mature and will eventually die and drop out of the canopy. If there were some replacements being grown in a nursery over the next 10 to 15 years (reaching 3" caliper before transplanting), a genetic replica of the deceased could be replanted in its honor. The living history of this prominent town park could be preserved for future generations to enjoy as generations of the past have done for more than a century.

Some general observations and recommendations for improvements include killing any grass (with Roundup) around the base of trees so there is no chance of basal damage from grass string trimmers or mowers trying to get too close. There are Christmas lights in several trees that should be removed before they cause strangulation and kill entire branches or tree tops. Deer are prolific in town and can cause significant damage to thin barked, small diameter trees such as aspen and fruit trees. Metal caging is necessary to protect these trees from deer and sometimes even children, but care should be taken to maintain the proper diameter and height of the cage so that it isn't rubbing on the tree and causing wounds that could insight deadly cankerous diseases or predispose the tree to insect infestations. Clearance pruning is inherently required for trees planted in areas that experience high use and is noted as a primary management need for several trees in Hartwell. Removal of weed barrier fabric and girdling roots that strangle Community trees are important and simple proactive measures that can be taken to prolong the life of existing trees. Aspen are frequently planted in clusters of three or five or even more. This is okay, but care must be taken to ensure limbs are not rubbing on the stem or branches of other trees. These wounds could very easily become infected with canker that will eventually kill the tree. Routine pruning and attention to detail where future problems could arise from lack thereof will likely result in more expensive, structural pruning needs down the road. It is best to be proactive and remove crossing limbs before they get too big and interfere with each other. It is also best to take care of multiple leaders before they get to be more than a couple inches in diameter and

more than two thirds the diameter of the intended leader. Included bark on large limbs and leaders are a major failure just waiting to happen and should be taken care of before the wind takes care of them and they break creating a larger wound that will never heal properly.

Insects and diseases noted in Hartwell were Bacterial Wetwood, Oystershell Scale, Poplar Borer, Cytospora Canker, Poplar Twig Gall Fly, Cooley Spruce Gall Adelgids. The two that warrant some management are Poplar Borer and Oystershell Scale, both of which affect aspen. Multiple aspen trees planted in a very small space is what pre-disposed these infected trees to borers, canker and scales. They are stressed due to over-crowding and damage they are causing to each other through rubbing branches. There are also deer rubbing their antlers on the smaller trees which is causing such serious stem damage, that the trees are attracting Poplar Borers and Cytospora Canker which all together, could cause enough additional stress to kill a tree. Removals are noted as a primary management need for several aspen trees due to these numerous issues. In the future, aspen should not be planted so close together unless intensive routine pruning is done on an annual basis and cages are properly installed and maintained to prevent wounds themselves.

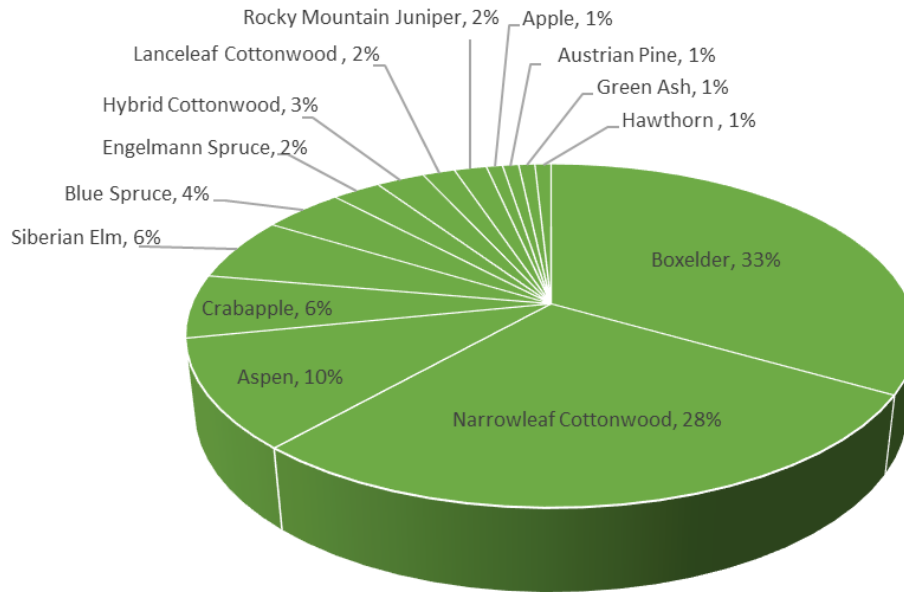
Rio Grande Cottonwoods, Narrowleaf Cottonwood and Lanceleaf Cottonwoods can be replanted in Hartwell, and should be planted in that order of priority and abundance. Besides cottonwoods, zone hardy, showy ornamentals could be planted around the fringes of the park to add some species diversity, color and visual interest. Some examples include Spring Snow Crabapple, which there are already several doing very well, Ginnala Maple, Tatarian maple, Russian Hawthorn, Princess Kay Plum, Mayday tree, Mountain-Ash. Appendix F has many more suggestions.

STREET TREE UNIT - Maps, Tables and Charts



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Street Tree Unit - Species Diversity



Street Tree Unit Individual Tree Values

Unit	Tree_ID	Species	Species_Ot	Species Factor	Basic Price	DBH	Ave DBH	Condition	Condition Factor	Placement	Placement Factor	Value
Street Trees	22	Aspen		0.55	\$50	0.1-2.9	1.5	Very Poor	0.3	Poor	0.5	\$7
Street Trees	93	Boxelder		0.50	\$39	0.1-2.9	1.5	Fair	0.7	Poor	0.5	\$12
Street Trees	110	Juniper, upright	rocky mtn - shrub form	0.65	\$63	0.1-2.9	1.5	Very Poor	0.3	Good	0.8	\$17
Street Trees	114	Crabapple		0.75	\$64	0.1-2.9	1.5	Very Poor	0.3	Fair	0.7	\$18
Street Trees	7	Aspen		0.55	\$50	3.0-4.9	4.0	Very Poor	0.3	Liability	0.2	\$21
Street Trees	113	Crabapple		0.75	\$64	3.0-4.9	4.0	Very Poor	0.3	Poor	0.5	\$90
Street Trees	96	Boxelder		0.50	\$39	3.0-4.9	4.0	Fair	0.7	Fair	0.7	\$120
Street Trees	16	Boxelder		0.50	\$39	3.0-4.9	4.0	Good	0.8	Good	0.8	\$157
Street Trees	17	Boxelder		0.50	\$39	3.0-4.9	4.0	Good	0.8	Good	0.8	\$157
Street Trees	92	Boxelder		0.50	\$39	3.0-4.9	4.0	Good	0.8	Good	0.8	\$157
Street Trees	9	Aspen		0.55	\$50	3.0-4.9	4.0	Fair	0.7	Fair	0.7	\$169
Street Trees	39	Aspen		0.55	\$50	3.0-4.9	4.0	Fair	0.7	Fair	0.7	\$169
Street Trees	29	Hybrid Cottonwood	bolleana poplar	0.60	\$41	7.0-8.9	8.0	Very Poor	0.3	Poor	0.5	\$185
Street Trees	82	Narrowleaf Cottonwood		0.60	\$41	7.0-8.9	8.0	Very Poor	0.3	Poor	0.5	\$185
Street Trees	50	Boxelder		0.50	\$39	5.0-6.9	6.0	Fair	0.7	Poor	0.5	\$193
Street Trees	51	Boxelder		0.50	\$39	5.0-6.9	6.0	Fair	0.7	Poor	0.5	\$193
Street Trees	52	Boxelder		0.50	\$39	5.0-6.9	6.0	Fair	0.7	Poor	0.5	\$193
Street Trees	61	Boxelder		0.50	\$39	5.0-6.9	6.0	Fair	0.7	Poor	0.5	\$193
Street Trees	6	Aspen		0.55	\$50	5.0-6.9	6.0	Poor	0.5	Poor	0.5	\$194
Street Trees	115	Aspen		0.55	\$50	5.0-6.9	6.0	Fair	0.7	Poor	0.5	\$272
Street Trees	28	Hybrid Cottonwood		0.60	\$41	5.0-6.9	6.0	Good	0.8	Poor	0.5	\$278
Street Trees	101	Boxelder		0.50	\$39	5.0-6.9	6.0	Good	0.8	Fair	0.7	\$309
Street Trees	111	Crabapple		0.75	\$64	3.0-4.9	4.0	Fair	0.7	Good	0.8	\$338
Street Trees	81	Boxelder		0.50	\$39	7.0-8.9	8.0	Fair	0.7	Poor	0.5	\$343
Street Trees	15	Boxelder		0.50	\$39	5.0-6.9	6.0	Good	0.8	Good	0.8	\$353
Street Trees	1	Boxelder		0.50	\$39	7.0-8.9	8.0	Good	0.8	Poor	0.5	\$392
Street Trees	55	Aspen		0.55	\$50	5.0-6.9	6.0	Good	0.8	Fair	0.7	\$435
Street Trees	38	Ash, Green		0.50	\$51	5.0-6.9	6.0	Good	0.8	Good	0.8	\$461
Street Trees	98	Boxelder		0.50	\$39	11.0-12.9	12.0	Very Poor	0.3	Fair	0.7	\$463
Street Trees	57	Crabapple		0.75	\$64	5.0-6.9	6.0	Fair	0.7	Poor	0.5	\$475
Street Trees	53	Boxelder		0.50	\$39	7.0-8.9	8.0	Fair	0.7	Fair	0.7	\$480
Street Trees	69	Crabapple		0.75	\$64	5.0-6.9	6.0	Good	0.8	Poor	0.5	\$543
Street Trees	32	Boxelder		0.50	\$39	7.0-8.9	8.0	Good	0.8	Fair	0.7	\$549
Street Trees	78	Boxelder		0.50	\$39	7.0-8.9	8.0	Fair	0.7	Good	0.8	\$549
Street Trees	31	Elm, Siberian		0.70	\$47	7.0-8.9	8.0	Fair	0.7	Poor	0.5	\$579
Street Trees	23	Boxelder		0.50	\$39	9.0-10.9	10.0	Good	0.8	Poor	0.5	\$612
Street Trees	11	Boxelder		0.50	\$39	7.0-8.9	8.0	Good	0.8	Good	0.8	\$627
Street Trees	59	Boxelder		0.50	\$39	7.0-8.9	8.0	Good	0.8	Good	0.8	\$627
Street Trees	60	Boxelder		0.50	\$39	7.0-8.9	8.0	Good	0.8	Good	0.8	\$627
Street Trees	27	Hybrid Cottonwood		0.60	\$41	7.0-8.9	8.0	Fair	0.7	Good	0.8	\$692
Street Trees	100	Narrowleaf Cottonwood		0.60	\$41	11.0-12.9	12.0	Poor	0.5	Poor	0.5	\$695
Street Trees	65	Spruce, other	Engelmann	0.75	\$50	9.0-10.9	10.0	Poor	0.5	Poor	0.5	\$736
Street Trees	76	Boxelder		0.50	\$39	9.0-10.9	10.0	Fair	0.7	Fair	0.7	\$750
Street Trees	79	Boxelder		0.50	\$39	9.0-10.9	10.0	Fair	0.7	Fair	0.7	\$750
Street Trees	14	Apple		0.75	\$64	5.0-6.9	6.0	Fair	0.7	Good	0.8	\$760
Street Trees	62	Crabapple		0.75	\$64	5.0-6.9	6.0	Fair	0.7	Good	0.8	\$760
Street Trees	58	Narrowleaf Cottonwood		0.60	\$41	7.0-8.9	8.0	Good	0.8	Good	0.8	\$791

Street Tree Unit Individual Tree Values (continued)

Unit	Tree_ID	Species	Species_Ot	Species Factor	Basic Price	DBH	Ave DBH	Condition	Condition Factor	Placement	Placement Factor	Value
Street Trees	63	Boxelder		0.50	\$39	9.0-10.9	10.0	Fair	0.7	Good	0.8	\$857
Street Trees	8	Aspen		0.55	\$50	9.0-10.9	10.0	Poor	0.5	Good	0.8	\$864
Street Trees	34	Crabapple		0.75	\$64	5.0-6.9	6.0	Good	0.8	Good	0.8	\$868
Street Trees	68	Hawthorn	Paul's Scarlet	0.80	\$69	5.0-6.9	6.0	Good	0.8	Fair	0.7	\$874
Street Trees	10	Boxelder		0.50	\$39	9.0-10.9	10.0	Good	0.8	Good	0.8	\$980
Street Trees	12	Boxelder		0.50	\$39	9.0-10.9	10.0	Good	0.8	Good	0.8	\$980
Street Trees	37	Boxelder		0.50	\$39	9.0-10.9	10.0	Good	0.8	Good	0.8	\$980
Street Trees	66	Juniper, upright	rocky mtn	0.65	\$63	9.0-10.9	10.0	Fair	0.7	Poor	0.5	\$1,125
Street Trees	3	Aspen		0.55	\$50	9.0-10.9	10.0	Good	0.8	Good	0.8	\$1,382
Street Trees	5	Aspen		0.55	\$50	9.0-10.9	10.0	Good	0.8	Good	0.8	\$1,382
Street Trees	40	Elm, Siberian		0.70	\$47	9.0-10.9	10.0	Fair	0.7	Good	0.8	\$1,446
Street Trees	107	Spruce, Blue		0.85	\$50	13.0-14.9	14.0	Very Poor	0.3	Good	0.8	\$1,569
Street Trees	108	Spruce, Blue		0.85	\$50	13.0-14.9	14.0	Very Poor	0.3	Good	0.8	\$1,569
Street Trees	67	Spruce, Blue		0.85	\$50	9.0-10.9	10.0	Fair	0.7	Fair	0.7	\$1,635
Street Trees	2	Aspen		0.55	\$50	11.0-12.9	12.0	Fair	0.7	Good	0.8	\$1,741
Street Trees	116	Narrowleaf Cottonwood		0.60	\$41	13.0-14.9	14.0	Fair	0.7	Fair	0.7	\$1,855
Street Trees	64	Spruce, other	Engelmann	0.75	\$50	11.0-12.9	12.0	Fair	0.7	Fair	0.7	\$2,077
Street Trees	77	Boxelder		0.50	\$39	15.0-16.9	16.0	Fair	0.7	Good	0.8	\$2,194
Street Trees	94	Boxelder		0.50	\$39	15.0-16.9	16.0	Fair	0.7	Good	0.8	\$2,194
Street Trees	26	Boxelder		0.50	\$39	25.0-26.9	26.0	Very Poor	0.3	Good	0.8	\$2,483
Street Trees	24	Boxelder		0.50	\$39	21.0-22.9	22.0	Poor	0.5	Fair	0.7	\$2,593
Street Trees	4	Aspen		0.55	\$50	13.0-14.9	14.0	Good	0.8	Good	0.8	\$2,708
Street Trees	112	Spruce, other	Engelmann	0.75	\$50	11.0-12.9	12.0	Good	0.8	Good	0.8	\$2,713
Street Trees	72	Narrowleaf Cottonwood		0.60	\$41	15.0-16.9	16.0	Fair	0.7	Good	0.8	\$2,768
Street Trees	56	Narrowleaf Cottonwood		0.60	\$41	17.0-18.9	18.0	Fair	0.7	Fair	0.7	\$3,066
Street Trees	99	Narrowleaf Cottonwood		0.60	\$41	17.0-18.9	18.0	Fair	0.7	Fair	0.7	\$3,066
Street Trees	105	Boxelder		0.50	\$39	25.0-26.9	26.0	Poor	0.5	Fair	0.7	\$3,622
Street Trees	80	Elm, Siberian		0.70	\$47	15.0-16.9	16.0	Good	0.8	Fair	0.7	\$3,702
Street Trees	71	Narrowleaf Cottonwood		0.60	\$41	17.0-18.9	18.0	Good	0.8	Good	0.8	\$4,004
Street Trees	25	Boxelder		0.50	\$39	25.0-26.9	26.0	Poor	0.5	Good	0.8	\$4,139
Street Trees	33	Boxelder		0.50	\$39	23.0-24.9	24.0	Fair	0.7	Fair	0.7	\$4,320
Street Trees	87	Narrowleaf Cottonwood		0.60	\$41	33.0-34.9	34.0	Very Poor	0.3	Fair	0.7	\$4,688
Street Trees	117	Pine, Austrian		0.75	\$44	17.0-18.9	18.0	Good	0.8	Fair	0.7	\$4,700
Street Trees	109	Spruce, Blue		0.85	\$50	15.0-16.9	16.0	Fair	0.7	Good	0.8	\$4,783
Street Trees	35	Cottonwood	lanceleaf	0.60	\$41	19.0-20.9	20.0	Good	0.8	Good	0.8	\$4,944
Street Trees	36	Cottonwood	lanceleaf	0.60	\$41	19.0-20.9	20.0	Good	0.8	Good	0.8	\$4,944
Street Trees	19	Narrowleaf Cottonwood		0.60	\$41	19.0-20.9	20.0	Good	0.8	Good	0.8	\$4,944
Street Trees	30	Narrowleaf Cottonwood		0.60	\$41	19.0-20.9	20.0	Good	0.8	Good	0.8	\$4,944
Street Trees	48	Elm, Siberian		0.70	\$47	21.0-22.9	22.0	Poor	0.5	Good	0.8	\$5,000
Street Trees	70	Narrowleaf Cottonwood		0.60	\$41	21.0-22.9	22.0	Fair	0.7	Good	0.8	\$5,234
Street Trees	42	Narrowleaf Cottonwood		0.60	\$41	23.0-24.9	24.0	Fair	0.7	Fair	0.7	\$5,450
Street Trees	106	Boxelder		0.50	\$39	37.0-38.9	38.0	Poor	0.5	Poor	0.5	\$5,526
Street Trees	75	Boxelder		0.50	\$39	25.0-26.9	26.0	Fair	0.7	Good	0.8	\$5,795
Street Trees	13	Narrowleaf Cottonwood		0.60	\$41	37.0-38.9	38.0	Very Poor	0.3	Fair	0.7	\$5,856
Street Trees	95	Boxelder		0.50	\$39	27.0-28.9	28.0	Fair	0.7	Fair	0.7	\$5,881
Street Trees	97	Elm, Siberian		0.70	\$47	19.0-20.9	20.0	Good	0.8	Good	0.8	\$6,612
Street Trees	86	Narrowleaf Cottonwood		0.60	\$41	37.0-38.9	38.0	Very Poor	0.3	Good	0.8	\$6,692
Street Trees	18	Narrowleaf Cottonwood		0.60	\$41	23.0-24.9	24.0	Good	0.8	Good	0.8	\$7,119
Street Trees	44	Boxelder		0.50	\$39	29.0-30.9	30.0	Fair	0.7	Good	0.8	\$7,715
Street Trees	74	Narrowleaf Cottonwood		0.60	\$41	25.0-26.9	26.0	Good	0.8	Good	0.8	\$8,355
Street Trees	49	Elm, Siberian		0.70	\$47	29.0-30.9	30.0	Poor	0.5	Good	0.8	\$9,298
Street Trees	54	Boxelder		0.50	\$39	43.0-44.9	44.0	Poor	0.5	Fair	0.7	\$10,372
Street Trees	43	Narrowleaf Cottonwood		0.60	\$41	33.0-34.9	34.0	Fair	0.7	Fair	0.7	\$10,939
Street Trees	21	Narrowleaf Cottonwood		0.60	\$41	29.0-30.9	30.0	Good	0.8	Good	0.8	\$11,123
Street Trees	88	Narrowleaf Cottonwood		0.60	\$41	41.0-42.9	42.0	Poor	0.5	Fair	0.7	\$11,923
Street Trees	83	Spruce, Blue		0.85	\$50	29.0-30.9	30.0	Poor	0.5	Good	0.8	\$12,011
Street Trees	41	Narrowleaf Cottonwood		0.60	\$41	37.0-38.9	38.0	Fair	0.7	Fair	0.7	\$13,664
Street Trees	73	Narrowleaf Cottonwood		0.60	\$41	35.0-36.9	36.0	Fair	0.7	Good	0.8	\$14,015
Street Trees	47	Elm, Siberian		0.70	\$47	31.0-32.9	32.0	Fair	0.7	Good	0.8	\$14,810
Street Trees	85	Narrowleaf Cottonwood		0.60	\$41	39.0-40.9	40.0	Fair	0.7	Good	0.8	\$17,303
Street Trees	45	Narrowleaf Cottonwood		0.60	\$41	41.0-42.9	42.0	Fair	0.7	Good	0.8	\$19,076
Street Trees	89	Narrowleaf Cottonwood		0.60	\$41	41.0-42.9	42.0	Fair	0.7	Good	0.8	\$19,076
Street Trees	91	Narrowleaf Cottonwood		0.60	\$41	41.0-42.9	42.0	Fair	0.7	Good	0.8	\$19,076
Street Trees	20	Narrowleaf Cottonwood		0.60	\$41	43.0-44.9	44.0	Fair	0.7	Good	0.8	\$20,936
Street Trees	84	Narrowleaf Cottonwood		0.60	\$41	43.0-44.9	44.0	Fair	0.7	Good	0.8	\$20,936
Street Trees	102	Narrowleaf Cottonwood		0.60	\$41	43.0-44.9	44.0	Fair	0.7	Good	0.8	\$20,936
Street Trees	103	Narrowleaf Cottonwood		0.60	\$41	43.0-44.9	44.0	Fair	0.7	Good	0.8	\$20,936
Street Trees	46	Narrowleaf Cottonwood		0.60	\$41	53.0-54.9	54.0	Poor	0.5	Good	0.8	\$22,524
Street Trees	90	Narrowleaf Cottonwood		0.60	\$41	43.0-44.9	44.0	Good	0.8	Good	0.8	\$23,927
Street Trees	104	Narrowleaf Cottonwood		0.60	\$41	53.0-54.9	54.0	Fair	0.7	Good	0.8	\$31,534

Street Tree Unit Individual Tree Risk Ratings

Unit	Tree_ID	Species	DBH	Total Risk Rating
Street Trees	36	Cottonwood	19.0-20.9	9
Street Trees	19	Narrowleaf Cottonwood	19.0-20.9	10
Street Trees	95	Boxelder	27.0-28.9	10
Street Trees	18	Narrowleaf Cottonwood	23.0-24.9	10
Street Trees	74	Narrowleaf Cottonwood	25.0-26.9	10
Street Trees	97	Elm, Siberian	19.0-20.9	11
Street Trees	21	Narrowleaf Cottonwood	29.0-30.9	11
Street Trees	47	Elm, Siberian	31.0-32.9	11
Street Trees	90	Narrowleaf Cottonwood	43.0-44.9	11
Street Trees	24	Boxelder	21.0-22.9	12
Street Trees	83	Spruce, Blue	29.0-30.9	12
Street Trees	91	Narrowleaf Cottonwood	41.0-42.9	12
Street Trees	20	Narrowleaf Cottonwood	43.0-44.9	12
Street Trees	70	Narrowleaf Cottonwood	21.0-22.9	13
Street Trees	25	Boxelder	25.0-26.9	14
Street Trees	106	Boxelder	37.0-38.9	14
Street Trees	89	Narrowleaf Cottonwood	41.0-42.9	14
Street Trees	84	Narrowleaf Cottonwood	43.0-44.9	14
Street Trees	102	Narrowleaf Cottonwood	43.0-44.9	14
Street Trees	49	Elm, Siberian	29.0-30.9	15
Street Trees	41	Narrowleaf Cottonwood	37.0-38.9	15
Street Trees	45	Narrowleaf Cottonwood	41.0-42.9	15
Street Trees	103	Narrowleaf Cottonwood	43.0-44.9	15
Street Trees	105	Boxelder	25.0-26.9	16
Street Trees	48	Elm, Siberian	21.0-22.9	16
Street Trees	42	Narrowleaf Cottonwood	23.0-24.9	16
Street Trees	86	Narrowleaf Cottonwood	37.0-38.9	16
Street Trees	44	Boxelder	29.0-30.9	16
Street Trees	73	Narrowleaf Cottonwood	35.0-36.9	16
Street Trees	85	Narrowleaf Cottonwood	39.0-40.9	16
Street Trees	46	Narrowleaf Cottonwood	53.0-54.9	16
Street Trees	33	Boxelder	23.0-24.9	17
Street Trees	75	Boxelder	25.0-26.9	17
Street Trees	54	Boxelder	43.0-44.9	17
Street Trees	104	Narrowleaf Cottonwood	53.0-54.9	17
Street Trees	87	Narrowleaf Cottonwood	33.0-34.9	19
Street Trees	43	Narrowleaf Cottonwood	33.0-34.9	19
Street Trees	88	Narrowleaf Cottonwood	41.0-42.9	19
Street Trees	26	Boxelder	25.0-26.9	20
Street Trees	13	Narrowleaf Cottonwood	37.0-38.9	21



Street Tree Unit Priority #1 Management Needs

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Street Tree Unit - Prioritized Tree Management Needs for Risk Rated Trees											
Unit	Tree_ID	Species	DBH	Mgmt Need #1	Comments	Mgmt Need #2	Comments	Mgmt Need #3	Comments	Total Risk Rating	Mitigation
Street Trees	36	Cottonwood	19.0-20.9	Clearance Prune	ped\vehicles	Structure Prune	scaffolding\crownlift to 10 ft			9	
Street Trees	19	Narrowleaf Cottonwood	19.0-20.9	Routine Prune	dead wood					10	
Street Trees	95	Boxelder	27.0-28.9	Structure Prune	sucker removal	Routine Prune				10	
Street Trees	18	Narrowleaf Cottonwood	23.0-24.9	Defective Prune	branch canker					10	
Street Trees	74	Narrowleaf Cottonwood	25.0-26.9	Routine Prune						10	
Street Trees	97	Elm, Siberian	19.0-20.9	Routine Prune						11	
Street Trees	21	Narrowleaf Cottonwood	29.0-30.9	Routine Prune	dead wood					11	
Street Trees	47	Elm, Siberian	31.0-32.9	Routine Prune						11	
Street Trees	90	Narrowleaf Cottonwood	43.0-44.9	Routine Prune						11	
Street Trees	24	Boxelder	21.0-22.9	Structure Prune	remove all but 4 stems \ remove biggest first					12	
Street Trees	83	Spruce, Blue	29.0-30.9	Mitigate Water	more	Monitor	investigate soil for harmful chem. apps.			12	
Street Trees	91	Narrowleaf Cottonwood	41.0-42.9	Defective Prune	dead	Monitor	cabling			12	
Street Trees	20	Narrowleaf Cottonwood	43.0-44.9	Do Nothing						12	
Street Trees	70	Narrowleaf Cottonwood	21.0-22.9	Defective Prune		Structure Prune				13	
Street Trees	25	Boxelder	25.0-26.9	Defective Prune		Structure Prune				14	
Street Trees	106	Boxelder	37.0-38.9	Defective Prune	deadwood					14	prune
Street Trees	89	Narrowleaf Cottonwood	41.0-42.9	Defective Prune	dead	Structure Prune		Mitigate Water		14	
Street Trees	84	Narrowleaf Cottonwood	43.0-44.9	Defective Prune	deadwood	Routine Prune				14	
Street Trees	102	Narrowleaf Cottonwood	43.0-44.9	Defective Prune	deadwood	Routine Prune				14	prune
Street Trees	49	Elm, Siberian	29.0-30.9	Defective Prune		Clearance Prune				15	
Street Trees	41	Narrowleaf Cottonwood	37.0-38.9	Routine Prune		Monitor				15	
Street Trees	45	Narrowleaf Cottonwood	41.0-42.9	Defective Prune		Monitor				15	
Street Trees	103	Narrowleaf Cottonwood	43.0-44.9	Defective Prune	deadwood					15	prune dead
Street Trees	105	Boxelder	25.0-26.9	Defective Prune	lot of dead					16	prune dead
Street Trees	48	Elm, Siberian	21.0-22.9	Defective Prune		Structure Prune				16	
Street Trees	42	Narrowleaf Cottonwood	23.0-24.9	Defective Prune		Routine Prune				16	
Street Trees	86	Narrowleaf Cottonwood	37.0-38.9	Defective Prune	deadwood	Structure Prune				16	
Street Trees	44	Boxelder	29.0-30.9	Defective Prune		Clearance Prune				16	
Street Trees	73	Narrowleaf Cottonwood	35.0-36.9	Defective Prune		Inspect		Routine Prune		16	
Street Trees	85	Narrowleaf Cottonwood	39.0-40.9	Defective Prune	deadwood	Routine Prune				16	
Street Trees	46	Narrowleaf Cottonwood	53.0-54.9	Routine Prune		Monitor		Inspect		16	
Street Trees	33	Boxelder	23.0-24.9	Defective Prune	previous failure\bird nesting cavities	Other	cable brace 2 main stems			17	
Street Trees	75	Boxelder	25.0-26.9	Defective Prune		Routine Prune				17	
Street Trees	54	Boxelder	43.0-44.9	Defective Prune		Structure Prune				17	
Street Trees	104	Narrowleaf Cottonwood	53.0-54.9	Defective Prune	branches over street	Routine Prune				17	prune
Street Trees	87	Narrowleaf Cottonwood	33.0-34.9	Defective Prune	deadwood	Mitigate Water				19	
Street Trees	43	Narrowleaf Cottonwood	33.0-34.9	Defective Prune		Structure Prune				19	
Street Trees	88	Narrowleaf Cottonwood	41.0-42.9	Defective Prune	dead	Structure Prune		Mitigate Water		19	
Street Trees	26	Boxelder	25.0-26.9	Remove						20	
Street Trees	13	Narrowleaf Cottonwood	37.0-38.9	Remove						21	issues - not worth it - remove!

Street Tree: Unit Description and Management Recommendations

The inventoried trees within this unit are along write of ways (ROWs) within the town boundary. Some ROWs are wider than others and in some areas the width changes along the ROW. There were 117 trees inventoried in this unit including 8 trees within Heritage Park which is on the southwest corner of Hwy 550 and Sherman Street (Hwy 62).

The prior tables and charts specific to this unit show that Boxelder, Narrowleaf Cottonwood, Aspen, Crabapple, Siberian Elm, Blue Spruce, Hybrid Cottonwood, Engelmann Spruce, Lanceleaf Cottonwood, Rocky Mountain Juniper, domestic apple, Austrian Pine, Green Ash and Hawthorn comprise this unit's species diversity. Roughly 20 Narrowleaf Cottonwoods greater 30" DBH are the highest valued trees within this unit, but they are also where the highest risk resides. In fact, the tree that received the highest risk rating across all units inventoried, was a Narrowleaf Cottonwood with a rating of 21 out of 24. This is tree #13 and is recommended for removal so that it will no longer pose a threat to passing motorists and pedestrians along Hwy 62/Sherman Street.

Replanting Narrowleaf Cottonwood is not recommended along the highway due to the structural integrity of cottonwoods in general. This shortfall of cottonwoods can be proactively mitigated to some degree through proper structural pruning starting at a very early age. Instead, a different variety of trees that are smaller and/or more columnar in crown shape should be planted along the highway in underground vaults which are essentially buried pots. This would accommodate CDOT's concerns about water applied to planted trees causing unstable soil conditions for the road or tree roots causing damage to the highway. Two recommended species for planting in pots are Aspen and Iseli Fastigate Spruce (see appendix F for more details).

Most trees planted in a pot will outgrow the pot within so many years depending upon the size of the pot. Use a pot of no less than 3 feet in diameter. This practice of planting in pots can be seen in the town of Aspen. Given a confined space of this small a size will ultimately mean the trees will outgrow their pot. Therefore, there must be a removal and replacement plan with associated budget, in place and timely executed. This is highly recommended so that these trees do not fall over and injure anyone or get sickly and die or spread their stress-induced insect and disease afflictions on to healthy specimens planted nearby. There are many factors (size of tree planted, size of pot, annual growth of tree including roots, trunk girth and crown size) involved in determining the best time to replace a particular species, so it would be best to assess each tree's situation and stability each year after planting. Based upon a few years of monitoring and assuming all conditions remain the same, it may be possible to extend the frequency with which they need to be inspected.

At the corner of Sherman Street and Laura Street, there are a cluster of older boxelders. There is another younger cluster along Clinton Street. These were probably not planted, but volunteers to the site. These trees from the maple family, can be very attractive trees, especially with their fall colors. They seem to grow very well in Ridgway with little help from irrigation water which is a huge asset for areas with limited water availability. A little structural pruning to establish one, three or five stems rather than the natural, bush-like growth form they are currently exhibiting, would drastically improve the aesthetics of these trees. This is a good species to encourage and/or propagate more of, due to its low requirements for water, tolerance to soil compaction, sound wood and medium growth height. Downfalls of this species are the inherent boxelder bugs and their nuisance to humans.

For the downtown section of the Street Tree Unit, to include Clinton, Cora and Lena Streets, there are aspen and another cluster of boxelder trees. For the aspen trees (#6 & #7) planted along Cora Street in the 1 foot by ~5 foot trench cut-out in the concrete, it is recommended that the water situation be assessed. There is a drip line to these trees, but it may be pinched or not even in use. These trees are clearly stressed and perhaps too old and too large to even keep in such a small growing space. Tree #7 is a liability due to its size and proximity to cars, pedestrians and outdoor diners at the restaurant.

Trees with flowers planted on top of their roots usually means the tree is getting too much water and too often. This is likely the issue with the aspen trees in the flower bed in front of the restaurant along Cora Street (#8 & #9). Mitigating these substandard growing conditions would alleviate, to some degree, the Oystershell Scale insect issues these aspen are experiencing, but they may need to be treated with pesticides in order to get rid of them (see Appendix G for details on controlling Oystershell

Scale). The large aspen trees in front of the church on Lena Street look generally healthy for the time being. However, they may benefit in the long run, from some protection from radiant heat exposure from landscape rocks. Radiant solar heat bouncing off the rocks can over-heat the cambium layer of aspen trees very easily due to their thin bark. Damage to cells results and is followed by tree stress from restricted movement of water and nutrients throughout the tree. Soil compaction and/or mechanical injury inflicted by vehicles is also a concern for these aspen. Installing a small, decorative fence at least 5 feet from the base of these aspen trees and replacing the landscape rock with wood or bark mulch would be an easy solution. The cluster of boxelders (#1) on the corner of Clinton Street and Lena Street, need structural pruning to establish fewer stems and clearance pruning to allow for parking and pedestrian traffic.

Alternative species to consider planting in the downtown area would be Sensation Boxelder which is a single-stemmed tree that has a beautiful multicolored fall leaf display, does not attract boxelder bugs and is medium in mature stature. Sucker Punch (a suckerless red leaf choke cherry), ornamental plums, Thornless Cockspur Hawthorne (specify no thorns) and Kentucky Coffee (males only) are also good considerations. Do not plant in tree grates. Crusher fines with pavers placed on top (not cemented in) would be optimal so the trees can get adequate moisture and pavers can be pulled out as the tree grows in girth. If you have a very narrow space to plant between a street and a sidewalk and cannot provide a minimum 4 foot by 4 foot planting space, you can provide a 2 foot by 6 foot space instead and achieve an adequate growing space for a smaller species of tree. Lanceleaf Cottonwood is a good possibility for medium to larger planting spaces downtown because of its taller, not wider stature. However, they are not necessarily recommended for a planting space smaller than 4 foot by 4 foot. Rio Grande Cottonwood and Narrowleaf Cottonwood are not recommended for the downtown area because of their massive mature size and tendency to drop branches.

Trees inventoried along Charles Street were considered to be growing in a 'natural state' as opposed to a manicured, park-like state which constitutes a modified approach to their inventory. The area is about 20 to 30 feet wide and runs along the north side of Charles Street for the length of two blocks. There is a gated pipe running along the north side of a fence line that runs along the north side of the trees, so they are getting some water at some times of the year but the timing, frequency and quantity is unknown. Bacterial wetwood was found on most of the larger diameter Narrowleaf Cottonwoods, but is not of great concern.

All trees along this section of Charles Street that were 20" in diameter and greater that had at least 50% live crown, were fully inventoried with a risk assessment. There were 4 trees that met this protocol and they are all Narrowleaf Cottonwoods with relatively low risk ratings partly due to their 'natural site' location. However, tree #18 needs a defective prune due to its proximity to a driveway and #19 and #21 need some routine pruning. Any trees of any diameter with less than 50% live crown or that may be missing more than 50% of their crown, should be cut and removed to enhance the health and vigor of the remaining, healthier trees. The total count of trees meeting this criteria was 16 dead Narrowleaf Cottonwood. There is one 19.5" dbh tree identified with orange flagging as a wildlife tree ("wildlife" is written on flag) and should be left as such. Care should be taken to choose a dead tree that will not fall towards Charles Street and hit a pedestrian or vehicle. Since this is a natural area, it would be ideal for

wildlife habitat, to leave any lower, brushy branches and understory shrubs and grasses to enhance cover for birds, small rodents and mammals. Those shrubby lower branches that are often seen on Narrowleaf Cottonwood, can be an eyesore to humans, but to wildlife, they are life-savers from predators. It would also be a good idea to leave some larger stems, especially if they are hollow, on the ground for wildlife habitat. Please refer to Appendix H for details on the benefits of wildlife trees and how to convert a hazardous tree into a wildlife tree.

There were 31 Narrowleaf Cottonwood that were less than 20" dbh and had more than 50% of their crowns present and alive. These should be routinely, structurally pruned to establish a future cottonwood stand that is more structurally sound and of lower risk to the public, than the present natural stand.

In addition to cottonwoods, there were boxelder trees and one apple tree. The apple tree provides food for wildlife and people and would not cause any harm to leave in place. Four boxelder trees have been flagged in orange amongst a single cluster of boxelders to indicate which ones should stay in place if a more tree-like structure is desired. The other option is to leave the multi-stemmed boxelder as is for the benefit of wildlife.

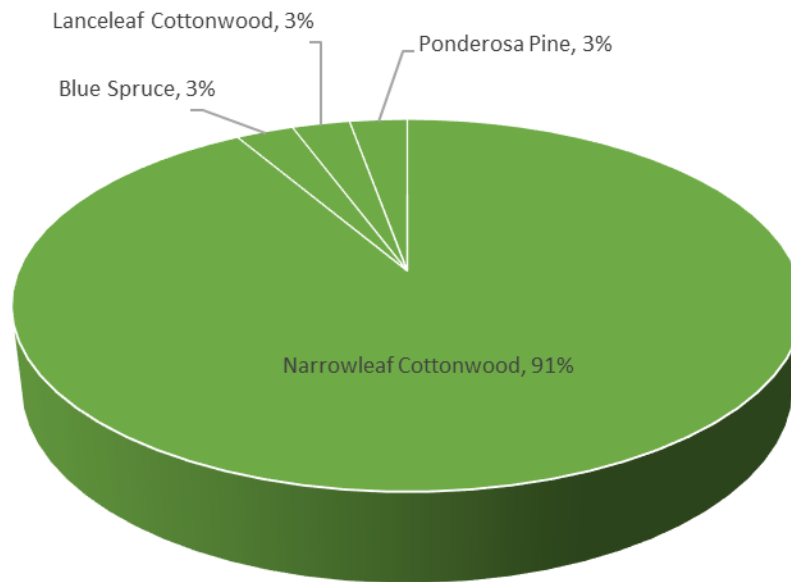
Towns beautifully planted with trees are more likely to attract new businesses and are more appealing to tourists and residents. Ridgway is a town that thrives on tourism. The Street Tree Unit had a minimal number of trees to inventory, which is testament to the possibility of planting many, many more. Before planting, choose your species wisely and consider the most limiting factors of each planting site such as water availability, available root space, crown space and the proximity of possible targets and interferences such as powerlines, buildings and parking spaces to name a few. Also consider who will be responsible for the care of the trees as they mature and who will ultimately be responsible for any liability posed to the public should a tree or any limbs fail. The existing trees in this unit are suitable species but in need of some serious management to include two recommended removals – one Narrowleaf Cottonwood and one Boxelder. The biggest positive about this unit is that the possibilities abound for a beautiful new look if trees are carefully incorporated into the new street-scaping plans for downtown Ridgway.

COTTONWOOD PARK - Unit Maps, Tables and Charts



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Cottonwood Park Unit - Species Diversity



Cottonwood Park Unit Individual Tree Values

Unit	Tree_ID	Species	Species_Ot	Species Factor	Basic Price	DBH	Ave DBH	Condition	Condition Factor	Placement	Placement Factor	Value
Cottonwood Park	71	Narrowleaf Cottonwood		0.60	\$41	0.1-2.9	1.5	Fair	0.7	Good	0.8	\$24
Cottonwood Park	68	Narrowleaf Cottonwood		0.60	\$41	3.0-4.9	4.0	Fair	0.7	Good	0.8	\$173
Cottonwood Park	56	Narrowleaf Cottonwood		0.60	\$41	3.0-4.9	4.0	Good	0.8	Excellent	0.9	\$222
Cottonwood Park	65	Pine, Ponderosa		0.70	\$41	3.0-4.9	4.0	Good	0.8	Good	0.8	\$231
Cottonwood Park	66	Pine, Ponderosa		0.70	\$41	3.0-4.9	4.0	Good	0.8	Good	0.8	\$231
Cottonwood Park	59	Narrowleaf Cottonwood		0.60	\$41	5.0-6.9	6.0	Fair	0.7	Poor	0.5	\$243
Cottonwood Park	57	Narrowleaf Cottonwood		0.60	\$41	7.0-8.9	8.0	Poor	0.5	Poor	0.5	\$309
Cottonwood Park	69	Narrowleaf Cottonwood		0.60	\$41	5.0-6.9	6.0	Fair	0.7	Good	0.8	\$389
Cottonwood Park	64	Narrowleaf Cottonwood		0.60	\$41	5.0-6.9	6.0	Good	0.8	Fair	0.7	\$389
Cottonwood Park	58	Narrowleaf Cottonwood		0.60	\$41	7.0-8.9	8.0	Fair	0.7	Poor	0.5	\$433
Cottonwood Park	62	Narrowleaf Cottonwood	two stems	0.60	\$41	9.0-10.9	10.0	Poor	0.5	Poor	0.5	\$483
Cottonwood Park	54	Spruce, Blue		0.85	\$50	5.0-6.9	6.0	Fair	0.7	Fair	0.7	\$589
Cottonwood Park	67	Spruce, Blue		0.85	\$50	5.0-6.9	6.0	Fair	0.7	Good	0.8	\$673
Cottonwood Park	53	Cottonwood	lanceleaf	0.60	\$41	7.0-8.9	8.0	Good	0.8	Fair	0.7	\$692
Cottonwood Park	55	Cottonwood	lanceleaf	0.60	\$41	7.0-8.9	8.0	Good	0.8	Good	0.8	\$791
Cottonwood Park	70	Narrowleaf Cottonwood		0.60	\$41	7.0-8.9	8.0	Good	0.8	Good	0.8	\$791
Cottonwood Park	60	Narrowleaf Cottonwood		0.60	\$41	9.0-10.9	10.0	Fair	0.7	Fair	0.7	\$946
Cottonwood Park	61	Narrowleaf Cottonwood	two stems	0.60	\$41	9.0-10.9	10.0	Fair	0.7	Fair	0.7	\$946
Cottonwood Park	63	Narrowleaf Cottonwood		0.60	\$41	11.0-12.9	12.0	Fair	0.7	Fair	0.7	\$1,363
Cottonwood Park	21	Narrowleaf Cottonwood		0.60	\$41	19.0-20.9	20.0	Very Poor	0.3	Good	0.8	\$1,854
Cottonwood Park	7	Narrowleaf Cottonwood		0.60	\$41	19.0-20.9	20.0	Poor	0.5	Fair	0.7	\$2,704
Cottonwood Park	50	Narrowleaf Cottonwood		0.60	\$41	21.0-22.9	22.0	Poor	0.5	Good	0.8	\$3,739
Cottonwood Park	27	Narrowleaf Cottonwood		0.60	\$41	19.0-20.9	20.0	Fair	0.7	Good	0.8	\$4,326
Cottonwood Park	29	Narrowleaf Cottonwood		0.60	\$41	19.0-20.9	20.0	Fair	0.7	Good	0.8	\$4,326
Cottonwood Park	52	Narrowleaf Cottonwood		0.60	\$41	25.0-26.9	26.0	Fair	0.7	Poor	0.5	\$4,569
Cottonwood Park	12	Narrowleaf Cottonwood		0.60	\$41	19.0-20.9	20.0	Good	0.8	Good	0.8	\$4,944
Cottonwood Park	31	Narrowleaf Cottonwood		0.60	\$41	19.0-20.9	20.0	Good	0.8	Good	0.8	\$4,944
Cottonwood Park	35	Narrowleaf Cottonwood		0.60	\$41	19.0-20.9	20.0	Good	0.8	Good	0.8	\$4,944
Cottonwood Park	36	Narrowleaf Cottonwood		0.60	\$41	19.0-20.9	20.0	Good	0.8	Good	0.8	\$4,944
Cottonwood Park	18	Narrowleaf Cottonwood		0.60	\$41	25.0-26.9	26.0	Poor	0.5	Good	0.8	\$5,222
Cottonwood Park	44	Narrowleaf Cottonwood		0.60	\$41	25.0-26.9	26.0	Poor	0.5	Good	0.8	\$5,222
Cottonwood Park	45	Narrowleaf Cottonwood		0.60	\$41	25.0-26.9	26.0	Poor	0.5	Good	0.8	\$5,222
Cottonwood Park	4	Narrowleaf Cottonwood		0.60	\$41	21.0-22.9	22.0	Fair	0.7	Good	0.8	\$5,234
Cottonwood Park	11	Narrowleaf Cottonwood		0.60	\$41	21.0-22.9	22.0	Fair	0.7	Good	0.8	\$5,234
Cottonwood Park	26	Narrowleaf Cottonwood		0.60	\$41	21.0-22.9	22.0	Fair	0.7	Good	0.8	\$5,234
Cottonwood Park	39	Narrowleaf Cottonwood		0.60	\$41	21.0-22.9	22.0	Fair	0.7	Good	0.8	\$5,234
Cottonwood Park	46	Narrowleaf Cottonwood		0.60	\$41	27.0-28.9	28.0	Poor	0.5	Fair	0.7	\$5,299
Cottonwood Park	3	Narrowleaf Cottonwood		0.60	\$41	21.0-22.9	22.0	Good	0.8	Good	0.8	\$5,982
Cottonwood Park	10	Narrowleaf Cottonwood		0.60	\$41	21.0-22.9	22.0	Good	0.8	Good	0.8	\$5,982
Cottonwood Park	14	Narrowleaf Cottonwood		0.60	\$41	21.0-22.9	22.0	Good	0.8	Good	0.8	\$5,982
Cottonwood Park	16	Narrowleaf Cottonwood		0.60	\$41	21.0-22.9	22.0	Good	0.8	Good	0.8	\$5,982
Cottonwood Park	30	Narrowleaf Cottonwood		0.60	\$41	21.0-22.9	22.0	Good	0.8	Good	0.8	\$5,982
Cottonwood Park	32	Narrowleaf Cottonwood		0.60	\$41	21.0-22.9	22.0	Good	0.8	Good	0.8	\$5,982
Cottonwood Park	34	Narrowleaf Cottonwood		0.60	\$41	21.0-22.9	22.0	Good	0.8	Good	0.8	\$5,982
Cottonwood Park	15	Narrowleaf Cottonwood		0.60	\$41	35.0-36.9	36.0	Very Poor	0.3	Good	0.8	\$6,006
Cottonwood Park	1	Narrowleaf Cottonwood		0.60	\$41	23.0-24.9	24.0	Fair	0.7	Good	0.8	\$6,229
Cottonwood Park	9	Narrowleaf Cottonwood		0.60	\$41	23.0-24.9	24.0	Fair	0.7	Good	0.8	\$6,229
Cottonwood Park	41	Narrowleaf Cottonwood		0.60	\$41	23.0-24.9	24.0	Fair	0.7	Good	0.8	\$6,229
Cottonwood Park	43	Narrowleaf Cottonwood		0.60	\$41	29.0-30.9	30.0	Poor	0.5	Good	0.8	\$6,952
Cottonwood Park	13	Narrowleaf Cottonwood		0.60	\$41	23.0-24.9	24.0	Good	0.8	Good	0.8	\$7,119
Cottonwood Park	33	Narrowleaf Cottonwood		0.60	\$41	23.0-24.9	24.0	Good	0.8	Good	0.8	\$7,119
Cottonwood Park	6	Narrowleaf Cottonwood		0.60	\$41	25.0-26.9	26.0	Fair	0.7	Good	0.8	\$7,310
Cottonwood Park	8	Narrowleaf Cottonwood		0.60	\$41	25.0-26.9	26.0	Fair	0.7	Good	0.8	\$7,310
Cottonwood Park	22	Narrowleaf Cottonwood		0.60	\$41	25.0-26.9	26.0	Fair	0.7	Good	0.8	\$7,310
Cottonwood Park	37	Narrowleaf Cottonwood		0.60	\$41	25.0-26.9	26.0	Fair	0.7	Good	0.8	\$7,310
Cottonwood Park	49	Narrowleaf Cottonwood		0.60	\$41	25.0-26.9	26.0	Fair	0.7	Good	0.8	\$7,310
Cottonwood Park	51	Narrowleaf Cottonwood		0.60	\$41	31.0-32.9	32.0	Fair	0.7	Fair	0.7	\$9,689
Cottonwood Park	23	Narrowleaf Cottonwood		0.60	\$41	31.0-32.9	32.0	Fair	0.7	Good	0.8	\$11,074
Cottonwood Park	24	Narrowleaf Cottonwood		0.60	\$41	31.0-32.9	32.0	Fair	0.7	Good	0.8	\$11,074
Cottonwood Park	25	Narrowleaf Cottonwood		0.60	\$41	31.0-32.9	32.0	Fair	0.7	Good	0.8	\$11,074
Cottonwood Park	48	Narrowleaf Cottonwood		0.60	\$41	31.0-32.9	32.0	Fair	0.7	Good	0.8	\$11,074
Cottonwood Park	40	Narrowleaf Cottonwood		0.60	\$41	37.0-38.9	38.0	Poor	0.5	Good	0.8	\$11,154
Cottonwood Park	42	Narrowleaf Cottonwood		0.60	\$41	39.0-40.9	40.0	Poor	0.5	Good	0.8	\$12,359
Cottonwood Park	17	Narrowleaf Cottonwood		0.60	\$41	33.0-34.9	34.0	Fair	0.7	Good	0.8	\$12,501
Cottonwood Park	2	Narrowleaf Cottonwood		0.60	\$41	33.0-34.9	34.0	Good	0.8	Good	0.8	\$14,287
Cottonwood Park	5	Narrowleaf Cottonwood		0.60	\$41	33.0-34.9	34.0	Good	0.8	Good	0.8	\$14,287
Cottonwood Park	20	Narrowleaf Cottonwood		0.60	\$41	37.0-38.9	38.0	Fair	0.7	Good	0.8	\$15,616
Cottonwood Park	38	Narrowleaf Cottonwood		0.60	\$41	37.0-38.9	38.0	Fair	0.7	Good	0.8	\$15,616
Cottonwood Park	19	Narrowleaf Cottonwood		0.60	\$41	41.0-42.9	42.0	Fair	0.7	Good	0.8	\$19,076
Cottonwood Park	28	Narrowleaf Cottonwood		0.60	\$41	41.0-42.9	42.0	Fair	0.7	Good	0.8	\$19,076
Cottonwood Park	47	Narrowleaf Cottonwood		0.60	\$41	51.0-52.9	52.0	Fair	0.7	Good	0.8	\$29,241

Cottonwood Park Unit Individual Tree Risk Ratings

Unit	Tree_ID	Species	DBH	Total Risk Rating
Cottonwood Park	31	Narrowleaf Cottonwood	19.0-20.9	9
Cottonwood Park	35	Narrowleaf Cottonwood	19.0-20.9	9
Cottonwood Park	10	Narrowleaf Cottonwood	21.0-22.9	9
Cottonwood Park	14	Narrowleaf Cottonwood	21.0-22.9	9
Cottonwood Park	32	Narrowleaf Cottonwood	21.0-22.9	9
Cottonwood Park	13	Narrowleaf Cottonwood	23.0-24.9	9
Cottonwood Park	11	Narrowleaf Cottonwood	21.0-22.9	10
Cottonwood Park	3	Narrowleaf Cottonwood	21.0-22.9	10
Cottonwood Park	34	Narrowleaf Cottonwood	21.0-22.9	10
Cottonwood Park	9	Narrowleaf Cottonwood	23.0-24.9	10
Cottonwood Park	41	Narrowleaf Cottonwood	23.0-24.9	10
Cottonwood Park	33	Narrowleaf Cottonwood	23.0-24.9	10
Cottonwood Park	50	Narrowleaf Cottonwood	21.0-22.9	11
Cottonwood Park	12	Narrowleaf Cottonwood	19.0-20.9	11
Cottonwood Park	30	Narrowleaf Cottonwood	21.0-22.9	11
Cottonwood Park	1	Narrowleaf Cottonwood	23.0-24.9	11
Cottonwood Park	40	Narrowleaf Cottonwood	37.0-38.9	11
Cottonwood Park	44	Narrowleaf Cottonwood	25.0-26.9	12
Cottonwood Park	39	Narrowleaf Cottonwood	21.0-22.9	12
Cottonwood Park	43	Narrowleaf Cottonwood	29.0-30.9	12
Cottonwood Park	8	Narrowleaf Cottonwood	25.0-26.9	12
Cottonwood Park	22	Narrowleaf Cottonwood	25.0-26.9	12
Cottonwood Park	48	Narrowleaf Cottonwood	31.0-32.9	12
Cottonwood Park	42	Narrowleaf Cottonwood	39.0-40.9	12
Cottonwood Park	17	Narrowleaf Cottonwood	33.0-34.9	12
Cottonwood Park	5	Narrowleaf Cottonwood	33.0-34.9	12
Cottonwood Park	38	Narrowleaf Cottonwood	37.0-38.9	12
Cottonwood Park	21	Narrowleaf Cottonwood	19.0-20.9	13
Cottonwood Park	7	Narrowleaf Cottonwood	19.0-20.9	13
Cottonwood Park	27	Narrowleaf Cottonwood	19.0-20.9	14
Cottonwood Park	49	Narrowleaf Cottonwood	25.0-26.9	14
Cottonwood Park	28	Narrowleaf Cottonwood	41.0-42.9	14
Cottonwood Park	29	Narrowleaf Cottonwood	19.0-20.9	15
Cottonwood Park	4	Narrowleaf Cottonwood	21.0-22.9	15
Cottonwood Park	6	Narrowleaf Cottonwood	25.0-26.9	15
Cottonwood Park	37	Narrowleaf Cottonwood	25.0-26.9	15
Cottonwood Park	2	Narrowleaf Cottonwood	33.0-34.9	15
Cottonwood Park	36	Narrowleaf Cottonwood	19.0-20.9	16
Cottonwood Park	45	Narrowleaf Cottonwood	25.0-26.9	16
Cottonwood Park	26	Narrowleaf Cottonwood	21.0-22.9	16
Cottonwood Park	46	Narrowleaf Cottonwood	27.0-28.9	16
Cottonwood Park	16	Narrowleaf Cottonwood	21.0-22.9	16
Cottonwood Park	51	Narrowleaf Cottonwood	31.0-32.9	16
Cottonwood Park	18	Narrowleaf Cottonwood	25.0-26.9	17
Cottonwood Park	23	Narrowleaf Cottonwood	31.0-32.9	17
Cottonwood Park	24	Narrowleaf Cottonwood	31.0-32.9	17
Cottonwood Park	25	Narrowleaf Cottonwood	31.0-32.9	17
Cottonwood Park	20	Narrowleaf Cottonwood	37.0-38.9	17
Cottonwood Park	19	Narrowleaf Cottonwood	41.0-42.9	17
Cottonwood Park	47	Narrowleaf Cottonwood	51.0-52.9	17
Cottonwood Park	52	Narrowleaf Cottonwood	25.0-26.9	18
Cottonwood Park	15	Narrowleaf Cottonwood	35.0-36.9	18



REMOVE THIS PAGE AND INSERT REPLICA 11X17 PRINTOUT

Cottonwood Park Unit - Prioritized Tree Management Needs for Risk Rated Trees											
Unit	Tree_ID	Species	DBH	Mgmt Need #1	Comments	Mgmt Need #2	Comments	Mgmt Need #3	Comments	Total Risk Rating	Mitigation
Cottonwood Park	31	Narrowleaf Cottonwood	19.0-20.9	Do Nothing						9	
Cottonwood Park	35	Narrowleaf Cottonwood	19.0-20.9	Routine Prune						9	
Cottonwood Park	10	Narrowleaf Cottonwood	21.0-22.9	Do Nothing						9	
Cottonwood Park	14	Narrowleaf Cottonwood	21.0-22.9	Routine Prune						9	
Cottonwood Park	32	Narrowleaf Cottonwood	21.0-22.9	Do Nothing						9	
Cottonwood Park	13	Narrowleaf Cottonwood	23.0-24.9	Routine Prune						9	
Cottonwood Park	11	Narrowleaf Cottonwood	21.0-22.9	Do Nothing						10	
Cottonwood Park	3	Narrowleaf Cottonwood	21.0-22.9	Monitor						10	
Cottonwood Park	34	Narrowleaf Cottonwood	21.0-22.9	Routine Prune						10	
Cottonwood Park	9	Narrowleaf Cottonwood	23.0-24.9	Monitor						10	
Cottonwood Park	41	Narrowleaf Cottonwood	23.0-24.9	Routine Prune						10	
Cottonwood Park	33	Narrowleaf Cottonwood	23.0-24.9	Routine Prune						10	
Cottonwood Park	50	Narrowleaf Cottonwood	21.0-22.9	Defective Prune		Inspect				11	
Cottonwood Park	12	Narrowleaf Cottonwood	19.0-20.9	Routine Prune						11	
Cottonwood Park	30	Narrowleaf Cottonwood	21.0-22.9	Routine Prune						11	
Cottonwood Park	1	Narrowleaf Cottonwood	23.0-24.9	Defective Prune	dead wood	Mitigate Water	increase sprinkler water application			11	
Cottonwood Park	40	Narrowleaf Cottonwood	37.0-38.9	Defective Prune	dead branches	Inspect	soundness			11	prune dead
Cottonwood Park	44	Narrowleaf Cottonwood	25.0-26.9	Defective Prune	dead branches	Inspect				12	
Cottonwood Park	39	Narrowleaf Cottonwood	21.0-22.9	Defective Prune	dead branches	Routine Prune				12	
Cottonwood Park	43	Narrowleaf Cottonwood	29.0-30.9	Defective Prune		Routine Prune				12	
Cottonwood Park	8	Narrowleaf Cottonwood	25.0-26.9	Inspect	soundness					12	
Cottonwood Park	22	Narrowleaf Cottonwood	25.0-26.9	Defective Prune	dead wood					12	prune dead
Cottonwood Park	48	Narrowleaf Cottonwood	31.0-32.9	Defective Prune	dead wood	Inspect				12	
Cottonwood Park	42	Narrowleaf Cottonwood	39.0-40.9	Inspect	soundness	Defective Prune	dead branches			12	turn into wildlife tree - declining
Cottonwood Park	17	Narrowleaf Cottonwood	33.0-34.9	Do Nothing						12	
Cottonwood Park	5	Narrowleaf Cottonwood	33.0-34.9	Defective Prune	minor dead					12	prune dead
Cottonwood Park	38	Narrowleaf Cottonwood	37.0-38.9	Defective Prune	dead branches	Monitor				12	
Cottonwood Park	21	Narrowleaf Cottonwood	19.0-20.9	Defective Prune	make into wildlife tree					13	prune top out at 20'
Cottonwood Park	7	Narrowleaf Cottonwood	19.0-20.9	Inspect	soundness					13	
Cottonwood Park	27	Narrowleaf Cottonwood	19.0-20.9	Defective Prune		Inspect	soundness			14	prune dead over path
Cottonwood Park	49	Narrowleaf Cottonwood	25.0-26.9	Routine Prune						14	tree house in tree
Cottonwood Park	28	Narrowleaf Cottonwood	41.0-42.9	Defective Prune	dead wood					14	prune dead near path
Cottonwood Park	29	Narrowleaf Cottonwood	19.0-20.9	Inspect	soundness	Defective Prune	dead branch over trail			15	prune dead
Cottonwood Park	4	Narrowleaf Cottonwood	21.0-22.9	Defective Prune	dead wood	Inspect	soundness			15	prune
Cottonwood Park	6	Narrowleaf Cottonwood	25.0-26.9	Inspect	soundness	Defective Prune	dead wood			15	prune dead over street
Cottonwood Park	37	Narrowleaf Cottonwood	25.0-26.9	Defective Prune	dead branch					15	fire pit under tree
Cottonwood Park	2	Narrowleaf Cottonwood	33.0-34.9	Inspect	soundness with drill	Monitor				15	
Cottonwood Park	36	Narrowleaf Cottonwood	19.0-20.9	Defective Prune	dead branches	Routine Prune				16	Has swing in tree
Cottonwood Park	45	Narrowleaf Cottonwood	25.0-26.9	Defective Prune	dead branch over trail					16	prune dead over trail
Cottonwood Park	26	Narrowleaf Cottonwood	21.0-22.9	Defective Prune	dead wood					16	prune over path
Cottonwood Park	46	Narrowleaf Cottonwood	27.0-28.9	Defective Prune	dead branch over trail					16	prune dead over trail
Cottonwood Park	16	Narrowleaf Cottonwood	21.0-22.9	Defective Prune	dead wood					16	next to swing
Cottonwood Park	51	Narrowleaf Cottonwood	31.0-32.9	Defective Prune	dead branches	Inspect				16	prune dead over drive
Cottonwood Park	18	Narrowleaf Cottonwood	25.0-26.9	Defective Prune		Inspect				17	prune or remove
Cottonwood Park	23	Narrowleaf Cottonwood	31.0-32.9	Defective Prune	dead wood					17	prune over path
Cottonwood Park	24	Narrowleaf Cottonwood	31.0-32.9	Defective Prune	dead wood					17	prune over path
Cottonwood Park	25	Narrowleaf Cottonwood	31.0-32.9	Defective Prune	dead wood					17	prune over path
Cottonwood Park	20	Narrowleaf Cottonwood	37.0-38.9	Defective Prune	dead wood	Inspect	soundness	Monitor		17	prune over road
Cottonwood Park	19	Narrowleaf Cottonwood	41.0-42.9	Inspect	soundness with drill	Monitor				17	
Cottonwood Park	47	Narrowleaf Cottonwood	51.0-52.9	Defective Prune		Inspect	soundness			17	cable or prune branches over yard
Cottonwood Park	52	Narrowleaf Cottonwood	25.0-26.9	Inspect	mushrooms/soundness					18	removal possible
Cottonwood Park	15	Narrowleaf Cottonwood	35.0-36.9	Remove						18	remove

Cottonwood Park - Unit Description and Management Recommendations

This unit is Cottonwood Park itself, which runs along the south side of Moffat Street and on both sides of Cottonwood Creek, from Amelia Street to Railroad Street. There is a more manicured strip of irrigated grass and several trees to the south of the creek. A walking path parallels the south side of the creek, through this manicured grass. The trees established along the creek have obviously flourished due to the presence of water in the creek. The trees further from the creek are irrigated with sprinkler water and the grass is frequently mowed. There is a rope swing (works great), a couple forts and trampled vegetation from little feet in several select areas within the heavily vegetated parts of this unit closest to the creek. This park plays an incredibly important role for the children of Ridgway and serves as a wonderful outdoor classroom and introduction to the wonders of nature.

The area of this unit directly adjacent to the creek was designated a “natural area” like Charles Street within the Street Tree Unit. Therefore, it was inventoried as such. 52 trees (all Narrowleaf Cottonwood) were greater than 20” dbh and were assessed for risk. Below is a table showing the other species less than 20” dbh that were counted, but not inventoried nor assessed for risk, within this unit:

Cottonwood Unit Species Count excluding trees greater than 20"dbh		
Species	Live	Dead
Narrowleaf Cottonwood	327	20
Boxelder (>4" dbh)	85	6
Lanceleaf Cottonwood	1	0
Gambel Oak (>2"dbh)	6	0
domestic apples	5	0
crabapple	4	0
Rocky Mountain Juniper	4	1
River Hawthorn	2	0

There were also several shrub species on site to include Choke Cherry, Honey Suckle, Service Berry and Mountain Mahogany.

A majority of this unit could be considered a natural riparian buffer to Cottonwood Creek. The natural vegetation along the creek acts as a filter and protects the creek water from receiving harmful street run-off such as gas and oil from vehicles. The trees along the creek in this unit would benefit greatly from a continuous flow of water through Cottonwood Creek. It was unclear at the time of the inventory, whether this creek runs at least a meager trickle throughout the growing season. Cottonwood trees need a lot of water. Should water be completely cut off to these cottonwoods by a dam or divergence upstream, they could experience die-back, limb breakage and eventual death which would obviously pose a significant threat to the public and cost to the town in liability, removal or park closure.

This unit has the most trees of any unit, over 20” in diameter. Primary management needs for this unit include 1 removal, 27 defective prunes and 8 sound wood inspections that could result in more removals and/or defective pruning work. Every tree inventoried in this unit had evidence of Bacterial Wetwood (aka bacterial slime or slime flux) either on their stem or branches. The bacteria that cause wetwood are prevalent, found in soil and water and the symptoms are very commonly witnessed on cottonwood trees. There are no proven ways to eradicate current infections of the bacteria. The best manage approach is to reduce its spread. This can be done by providing adequate water to the trees and avoid causing damage to their roots and stems where bacteria could enter. See Appendix G for more details on the biology, symptoms, transmission and management of Bacterial Wetwood.

To reduce competition between trees and to ensure the health of the remaining stand, some unhealthy trees or those exceeding acceptable levels of maintenance costs, could be cut down, lopped into shorter lengths and scattered on sight. Remains from the cutting of trees could be chipped and broadcast across the site or hauled off as well, but it would be beneficial in this natural setting to leave them in place, safely on the ground, for the benefit of wildlife habitat. Be sure that any tree boles/stems left on site will not roll downhill or pose any other kind of hazard to children playing on them since there is clear evidence of the frequency with which they use this area. Increasing species diversity in this natural area is limited to tree species native to riparian areas if the intent is to keep it a 'natural area'. The honeysuckle and domestic apple trees are providing fruit to wildlife. However, they are not native to this area. If the intent is to ensure the integrity of a natural area, these species should be cut and removed before they spread any further. Rio Grande Cottonwood poles could be planted down to the creek's water table and where there is adequate sunlight through the over-story. All the shrubs counted on site offer good forage and/or fruit. The riparian area is fairly overgrown, almost to a choking point, at the western end of the unit and inter-plantings could suffer from too much competition. Any time a large Narrowleaf Cottonwood is cut, more will likely sprout to take its place, so there is really no need to be concerned with propagating this species.

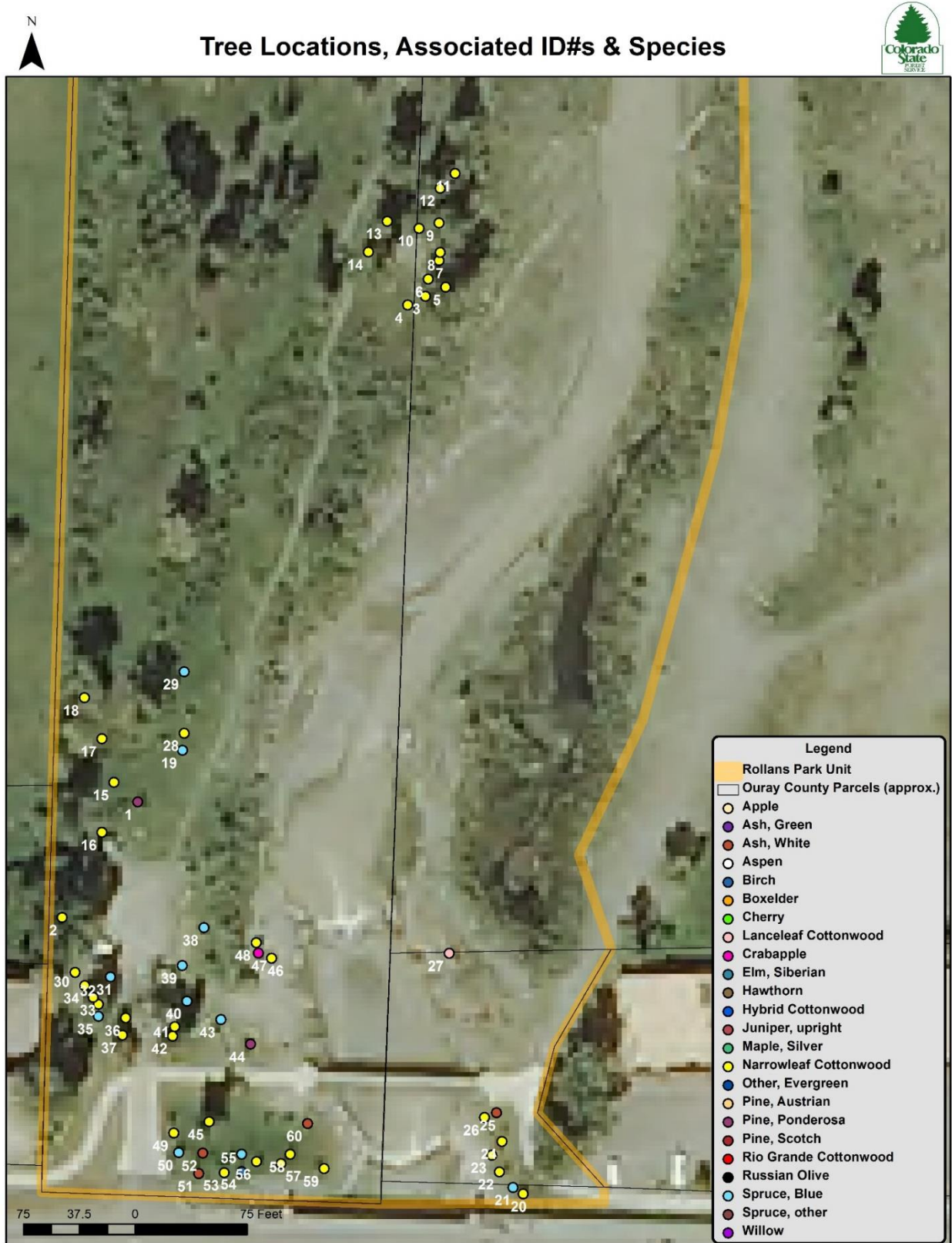
As a general rule of thumb in this area, any dead trees should be left as they are or "topped" to a height of no more than 20 feet for the benefit of wildlife, unless they pose a threat to targets should they or any of their limbs, fail. Again, please refer to Appendix H for details on the benefits of wildlife trees and how to convert a hazardous tree into a wildlife tree.

Any lower limbs along Moffat Street and especially on the far eastern end, should be pruned up to a height of 8 feet where they could pose a clearance impediment to vehicles or pedestrians. Otherwise, it is advised to leave lower limbs for screening and cover for wildlife within other areas along Moffat Street. The cottonwoods east of Lena Street on Moffat Street, need more water. They do not have access to the creek and are only getting sprinkler water from Chipeta Sun Lodge when they water their grass. If there is any way to increase the frequency and duration of their watering regime, these trees would improve in health and vigor.

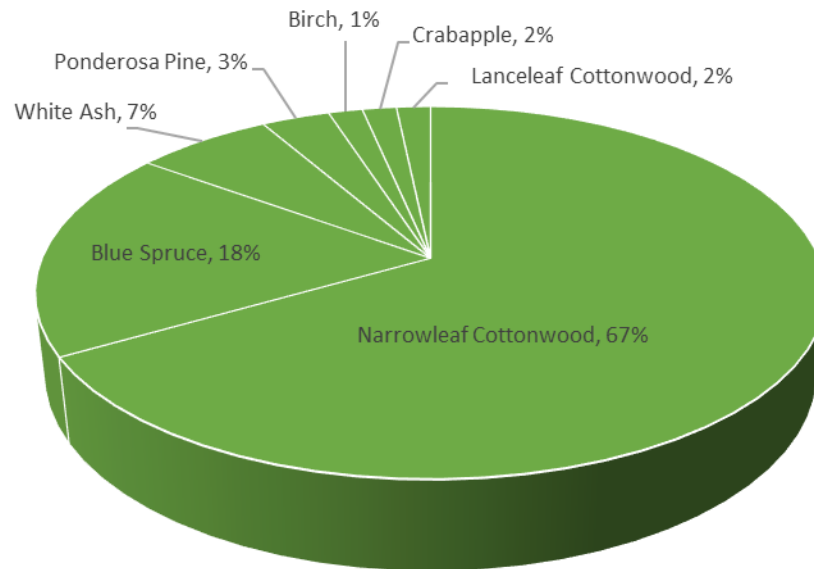
The area of the Cottonwood Unit where the grass is regularly cut and there is an irrigation system in place has several planted trees with cages for protection from wildlife. This is the best preventative measure for the protection of these young trees and should be maintained until the bark of those trees becomes thick enough to withstand injury from antlers and ungulate teeth, not to mention mowers and weed-whackers. This area is irrigated with sprinkler water which seems to be adequate in some areas, inadequate in others and excessive in some. Individual sprinkler heads may be in need of adjustment to mitigate this situation. One reason some of the trees that are receiving an excessive amount of water may be because they have a drip system applied to the base of their stems in addition to receiving sprinkler water from the sprinkler heads. These drip systems may have been put in place during the initial establishment of the newly planted saplings, but is no longer necessary now that the trees are established. Since this area is not considered a natural area and has plenty of open space for new plantings, species diversity could easily be improved beyond the four that are currently in place; Narrowleaf Cottonwood, Blue Spruce, Lanceleaf Cottonwood and Ponderosa Pine. See Appendix F for a

list of species and descriptions of each for appropriate selections. Planting broad-crowned Rio Grande Cottonwoods here would be a good idea since they do so well in the same irrigated growing conditions at Hartwell Park and they have plenty of space to grow. This area might also be a good area to try other large, experimental species such as the Kentucky Coffee tree and the Boulevard Linden.

ROLLANS PARK - Unit Maps, Tables and Charts



Rollans Park Unit - Species Diversity



Rollans Park Unit Individual Tree Values

Unit	Tree_ID	Species	Species_Ot	Species Factor	Basic Price	DBH	Ave DBH	Condition	Condition Factor	Placement	Placement Factor	Value
Rollans Park	27	Cottonwood	lanceleaf	0.60	\$41	0.1-2.9	1.5	Fair	0.7	Fair	0.7	\$21
Rollans Park	26	Narrowleaf Cottonwood		0.60	\$41	0.1-2.9	1.5	Fair	0.7	Fair	0.7	\$21
Rollans Park	56	Narrowleaf Cottonwood		0.60	\$41	0.1-2.9	1.5	Fair	0.7	Good	0.8	\$24
Rollans Park	20	Narrowleaf Cottonwood		0.60	\$41	0.1-2.9	1.5	Good	0.8	Fair	0.7	\$24
Rollans Park	19	Spruce, Blue		0.85	\$50	0.1-2.9	1.5	Poor	0.5	Fair	0.7	\$26
Rollans Park	22	Narrowleaf Cottonwood		0.60	\$41	0.1-2.9	1.5	Good	0.8	Good	0.8	\$28
Rollans Park	24	Narrowleaf Cottonwood		0.60	\$41	0.1-2.9	1.5	Good	0.8	Good	0.8	\$28
Rollans Park	46	Narrowleaf Cottonwood		0.60	\$41	0.1-2.9	1.5	Good	0.8	Good	0.8	\$28
Rollans Park	57	Narrowleaf Cottonwood		0.60	\$41	0.1-2.9	1.5	Good	0.8	Good	0.8	\$28
Rollans Park	58	Narrowleaf Cottonwood		0.60	\$41	0.1-2.9	1.5	Good	0.8	Good	0.8	\$28
Rollans Park	59	Narrowleaf Cottonwood		0.60	\$41	0.1-2.9	1.5	Good	0.8	Good	0.8	\$28
Rollans Park	35	Spruce, Blue		0.85	\$50	0.1-2.9	1.5	Poor	0.5	Good	0.8	\$30
Rollans Park	25	Ash, White		0.65	\$54	0.1-2.9	1.5	Good	0.8	Fair	0.7	\$35
Rollans Park	21	Spruce, Blue		0.85	\$50	0.1-2.9	1.5	Fair	0.7	Fair	0.7	\$37
Rollans Park	51	Ash, White		0.65	\$54	0.1-2.9	1.5	Good	0.8	Good	0.8	\$40
Rollans Park	52	Ash, White		0.65	\$54	0.1-2.9	1.5	Good	0.8	Good	0.8	\$40
Rollans Park	60	Ash, White		0.65	\$54	0.1-2.9	1.5	Good	0.8	Good	0.8	\$40
Rollans Park	47	Crabapple		0.75	\$64	0.1-2.9	1.5	Fair	0.7	Fair	0.7	\$42
Rollans Park	31	Spruce, Blue		0.85	\$50	0.1-2.9	1.5	Good	0.8	Fair	0.7	\$42
Rollans Park	38	Spruce, Blue		0.85	\$50	0.1-2.9	1.5	Good	0.8	Good	0.8	\$48
Rollans Park	43	Spruce, Blue		0.85	\$50	0.1-2.9	1.5	Good	0.8	Good	0.8	\$48
Rollans Park	55	Spruce, Blue		0.85	\$50	0.1-2.9	1.5	Good	0.8	Good	0.8	\$48
Rollans Park	54	Birch		0.75	\$72	0.1-2.9	1.5	Good	0.8	Good	0.8	\$61
Rollans Park	1	Pine, Ponderosa		0.70	\$41	3.0-4.9	4.0	Very Poor	0.3	Good	0.8	\$87
Rollans Park	23	Narrowleaf Cottonwood		0.60	\$41	3.0-4.9	4.0	Fair	0.7	Good	0.8	\$173
Rollans Park	48	Narrowleaf Cottonwood		0.60	\$41	3.0-4.9	4.0	Good	0.8	Good	0.8	\$198
Rollans Park	49	Narrowleaf Cottonwood		0.60	\$41	3.0-4.9	4.0	Good	0.8	Good	0.8	\$198
Rollans Park	53	Narrowleaf Cottonwood		0.60	\$41	3.0-4.9	4.0	Good	0.8	Good	0.8	\$198
Rollans Park	44	Pine, Ponderosa		0.70	\$41	3.0-4.9	4.0	Good	0.8	Good	0.8	\$231
Rollans Park	29	Spruce, Blue		0.85	\$50	3.0-4.9	4.0	Good	0.8	Good	0.8	\$342
Rollans Park	39	Spruce, Blue		0.85	\$50	3.0-4.9	4.0	Good	0.8	Good	0.8	\$342
Rollans Park	40	Spruce, Blue		0.85	\$50	3.0-4.9	4.0	Good	0.8	Good	0.8	\$342
Rollans Park	50	Spruce, Blue		0.85	\$50	3.0-4.9	4.0	Good	0.8	Good	0.8	\$342
Rollans Park	11	Narrowleaf Cottonwood		0.60	\$41	19.0-20.9	20.0	Very Poor	0.3	Liability	0.2	\$463
Rollans Park	7	Narrowleaf Cottonwood		0.60	\$41	9.0-10.9	10.0	Poor	0.5	Good	0.8	\$772
Rollans Park	33	Narrowleaf Cottonwood		0.60	\$41	9.0-10.9	10.0	Good	0.8	Fair	0.7	\$1,081
Rollans Park	36	Narrowleaf Cottonwood		0.60	\$41	9.0-10.9	10.0	Good	0.8	Good	0.8	\$1,236
Rollans Park	32	Narrowleaf Cottonwood		0.60	\$41	13.0-14.9	14.0	Fair	0.7	Fair	0.7	\$1,855
Rollans Park	34	Narrowleaf Cottonwood		0.60	\$41	13.0-14.9	14.0	Fair	0.7	Fair	0.7	\$1,855
Rollans Park	9	Narrowleaf Cottonwood		0.60	\$41	13.0-14.9	14.0	Fair	0.7	Good	0.8	\$2,120
Rollans Park	6	Narrowleaf Cottonwood		0.60	\$41	21.0-22.9	22.0	Dead	0.3	Good	0.8	\$2,243
Rollans Park	18	Narrowleaf Cottonwood		0.60	\$41	23.0-24.9	24.0	Very Poor	0.3	Fair	0.7	\$2,336
Rollans Park	37	Narrowleaf Cottonwood		0.60	\$41	13.0-14.9	14.0	Good	0.8	Good	0.8	\$2,422
Rollans Park	8	Narrowleaf Cottonwood		0.60	\$41	17.0-18.9	18.0	Poor	0.5	Good	0.8	\$2,503
Rollans Park	17	Narrowleaf Cottonwood		0.60	\$41	15.0-16.9	16.0	Good	0.8	Fair	0.7	\$2,768
Rollans Park	5	Narrowleaf Cottonwood		0.60	\$41	15.0-16.9	16.0	Fair	0.7	Good	0.8	\$2,768
Rollans Park	30	Narrowleaf Cottonwood		0.60	\$41	17.0-18.9	18.0	Fair	0.7	Fair	0.7	\$3,066
Rollans Park	13	Narrowleaf Cottonwood		0.60	\$41	15.0-16.9	16.0	Good	0.8	Good	0.8	\$3,164
Rollans Park	41	Narrowleaf Cottonwood		0.60	\$41	15.0-16.9	16.0	Good	0.8	Good	0.8	\$3,164
Rollans Park	42	Narrowleaf Cottonwood		0.60	\$41	15.0-16.9	16.0	Good	0.8	Good	0.8	\$3,164
Rollans Park	16	Narrowleaf Cottonwood		0.60	\$41	27.0-28.9	28.0	Very Poor	0.3	Fair	0.7	\$3,179
Rollans Park	45	Narrowleaf Cottonwood		0.60	\$41	17.0-18.9	18.0	Fair	0.7	Good	0.8	\$3,504
Rollans Park	10	Narrowleaf Cottonwood		0.60	\$41	17.0-18.9	18.0	Good	0.8	Good	0.8	\$4,004
Rollans Park	28	Narrowleaf Cottonwood		0.60	\$41	23.0-24.9	24.0	Poor	0.5	Good	0.8	\$4,449
Rollans Park	12	Narrowleaf Cottonwood		0.60	\$41	19.0-20.9	20.0	Good	0.8	Good	0.8	\$4,944
Rollans Park	14	Narrowleaf Cottonwood		0.60	\$41	23.0-24.9	24.0	Good	0.8	Good	0.8	\$7,119
Rollans Park	3	Narrowleaf Cottonwood		0.60	\$41	25.0-26.9	26.0	Fair	0.7	Good	0.8	\$7,310
Rollans Park	4	Narrowleaf Cottonwood		0.60	\$41	27.0-28.9	28.0	Good	0.8	Good	0.8	\$9,689
Rollans Park	15	Narrowleaf Cottonwood		0.60	\$41	33.0-34.9	34.0	Fair	0.7	Good	0.8	\$12,501
Rollans Park	2	Narrowleaf Cottonwood		0.60	\$41	39.0-40.9	40.0	Good	0.8	Good	0.8	\$19,774

Rollans Park Unit Individual Tree Risk Ratings

Unit	Tree_ID	Species	DBH	Total Risk Rating
Rollans Park	12	Narrowleaf Cottonwood	19.0-20.9	10
Rollans Park	4	Narrowleaf Cottonwood	27.0-28.9	11
Rollans Park	28	Narrowleaf Cottonwood	23.0-24.9	12
Rollans Park	3	Narrowleaf Cottonwood	25.0-26.9	14
Rollans Park	15	Narrowleaf Cottonwood	33.0-34.9	14
Rollans Park	18	Narrowleaf Cottonwood	23.0-24.9	15
Rollans Park	2	Narrowleaf Cottonwood	39.0-40.9	15
Rollans Park	14	Narrowleaf Cottonwood	23.0-24.9	16
Rollans Park	16	Narrowleaf Cottonwood	27.0-28.9	19
Rollans Park	11	Narrowleaf Cottonwood	19.0-20.9	20



Rollans Park Unit Priority #1 Management Needs



Rollans Park Unit - Prioritized Tree Management Needs for Risk Rated Trees												
Unit	Tree_ID	Species	DBH	Mgmt Need #1	Comments	Mgmt Need #2	Comments	Mgmt Need #3	Comments	Total Risk Rating	Mitigation	
Rollans Park	12	Narrowleaf Cottonwood	19.0-20.9	Routine Prune						10		
Rollans Park	4	Narrowleaf Cottonwood	27.0-28.9	Routine Prune						11		
Rollans Park	28	Narrowleaf Cottonwood	23.0-24.9	Defective Prune		Structure Prune				12	deadwood codom	
Rollans Park	3	Narrowleaf Cottonwood	25.0-26.9	Defective Prune	dead					14		
Rollans Park	15	Narrowleaf Cottonwood	33.0-34.9	Defective Prune	dead	Clearance Prune				14		
Rollans Park	18	Narrowleaf Cottonwood	23.0-24.9	Defective Prune	remove dead	Routine Prune				15		
Rollans Park	2	Narrowleaf Cottonwood	39.0-40.9	Defective Prune	dead	Structure Prune				15		
Rollans Park	14	Narrowleaf Cottonwood	23.0-24.9	Defective Prune	deadwood	Clearance Prune				16		
Rollans Park	16	Narrowleaf Cottonwood	27.0-28.9	Remove						19		
Rollans Park	11	Narrowleaf Cottonwood	19.0-20.9	Defective Prune	make wildlife tree					20		

Rollans Park - Unit Description and Management Recommendations

This unit generally runs along the west side of the Uncompahgre River north of Hwy62/Sherman Street. There is a GOCO funded amphitheater seating area under a dozen large Narrowleaf Cottonwoods, used for outdoor learning opportunities at the north end of this unit. At the south end, there is a boat launch and picnicking area to the east of the parking lot. In this area and across the foot bridge, there are many planted sapling sized trees caged from protection from wildlife as well as several larger narrowleaf cottonwoods.

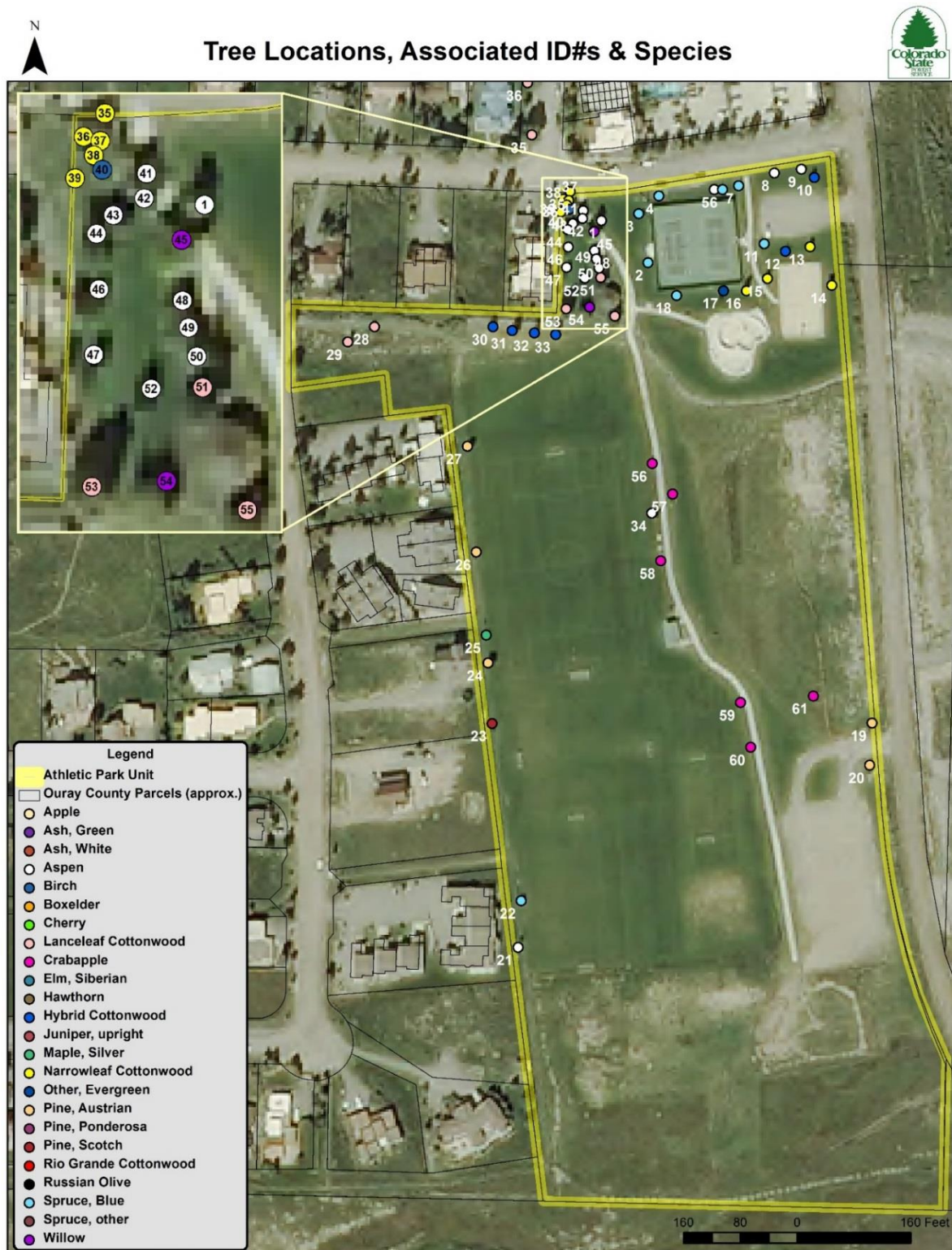
The only irrigated area is east of the parking lot, south of the walking path and west of the river. This area has protective cages that were very well made and installed, however, the guy wires that were intended to be in place through the establishment of the saplings overstayed their welcome. These were all removed upon inspection. If they had not been, most would have succumbed to strangulation starting the next growing season. This is an important concept to always remember when planting new trees and stabilizing them with guy wires. This technique should only be maintained for the first two years after a tree is planted to prevent blow-down. After that, a properly planted tree should be established well enough to support itself without assistance and will need the movement created by wind to further stabilize itself.

Across the foot bridge, another urgent matter must be addressed at the beginning of the season. There is an excessive amount of water being applied to all trees in this area. There seems to be soaker hose as well as sprinkler water being applied to the trees and with the amount of water present there may even be a break in the irrigation water line. Trees will not tolerate this excessive quantity of water for long. They will soon exhibit signs of stress and eventually drop their needles and leaves and die.

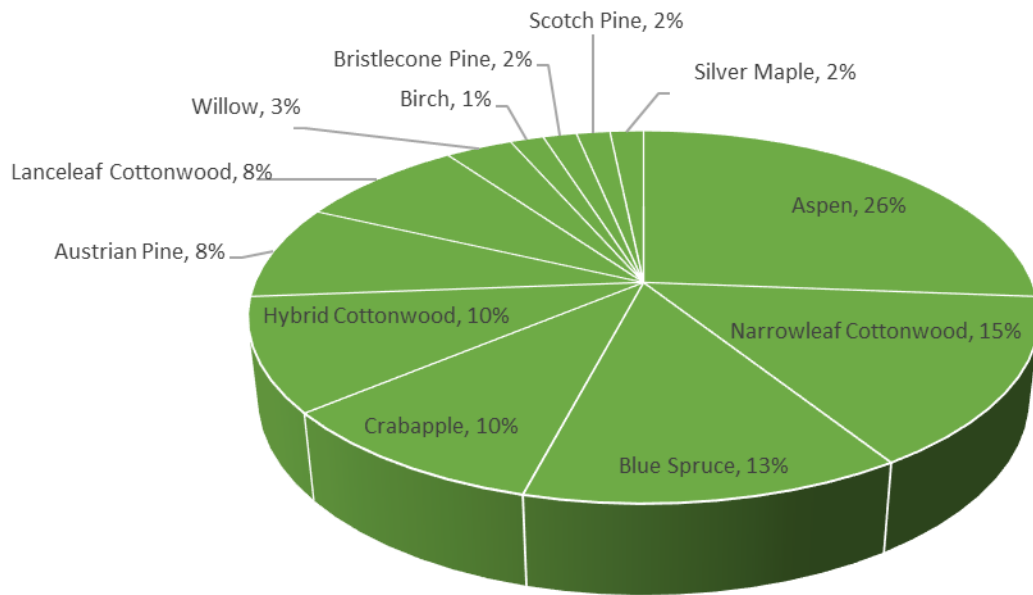
The area to the north of the foot path on the west side of the river has inadequate water with no irrigation in place. The only removal in this unit is in this area on the northwest corner of the public bathroom (Tree ID #16 – a Narrowleaf Cottonwood) and has a risk rating of 19 out of 24. A lot of routine pruning is needed due to the dead branches from inadequate water supply.

The Narrowleaf Cottonwoods in the area of the GOCO funded amphitheater are in need of several defective prunings due to dead tree tops that could fall on people sitting in the amphitheater. Tree ID #11 should be turned into a wildlife tree and has a very high risk rating of 20. Tree ID #6 is dead and should also be turned into a wildlife tree. See Appendix H for specifications on creating wildlife trees.

ATHLETIC PARK - Unit Maps, Tables and Charts



Athletic Park Unit - Species Diversity



Athletic Park Unit Individual Tree Values

Unit	Tree_ID	Species	Species_Ot	Species Factor	Basic Price	DBH	Ave DBH	Condition	Condition Factor	Placement	Placement Factor	Value
Athletic Park	9	Aspen		0.55	\$50	0.1-2.9	1.5	Poor	0.5	Fair	0.7	\$17
Athletic Park	61	Crabapple		0.75	\$64	0.1-2.9	1.5	Poor	0.5	Poor	0.5	\$21
Athletic Park	60	Crabapple		0.75	\$64	0.1-2.9	1.5	Fair	0.7	Good	0.8	\$47
Athletic Park	59	Crabapple	dolgo	0.75	\$64	0.1-2.9	1.5	Good	0.8	Good	0.8	\$54
Athletic Park	19	Pine, Austrian		0.75	\$44	3.0-4.9	4.0	Very Poor	0.3	Fair	0.7	\$87
Athletic Park	17	Other, Evergreen	bristlecone pine	0.75	\$52	3.0-4.9	4.0	Very Poor	0.3	Fair	0.7	\$103
Athletic Park	28	Cottonwood	lanceleaf	0.60	\$41	5.0-6.9	6.0	Very Poor	0.3	Poor	0.5	\$104
Athletic Park	11	Spruce, Blue		0.85	\$50	3.0-4.9	4.0	Very Poor	0.3	Fair	0.7	\$112
Athletic Park	18	Spruce, Blue		0.85	\$50	3.0-4.9	4.0	Very Poor	0.3	Fair	0.7	\$112
Athletic Park	2	Spruce, Blue		0.85	\$50	3.0-4.9	4.0	Poor	0.5	Poor	0.5	\$133
Athletic Park	3	Spruce, Blue		0.85	\$50	3.0-4.9	4.0	Poor	0.5	Poor	0.5	\$133
Athletic Park	4	Spruce, Blue		0.85	\$50	3.0-4.9	4.0	Poor	0.5	Poor	0.5	\$133
Athletic Park	10	Hybrid Cottonwood		0.60	\$41	5.0-6.9	6.0	Very Poor	0.3	Fair	0.7	\$146
Athletic Park	12	Hybrid Cottonwood		0.60	\$41	3.0-4.9	4.0	Fair	0.7	Fair	0.7	\$151
Athletic Park	39	Narrowleaf Cottonwood		0.60	\$41	3.0-4.9	4.0	Fair	0.7	Fair	0.7	\$151
Athletic Park	5	Aspen		0.55	\$50	5.0-6.9	6.0	Very Poor	0.3	Fair	0.7	\$163
Athletic Park	8	Aspen		0.55	\$50	3.0-4.9	4.0	Fair	0.7	Fair	0.7	\$169
Athletic Park	23	Pine, Scotch		0.75	\$46	3.0-4.9	4.0	Poor	0.5	Good	0.8	\$173
Athletic Park	29	Cottonwood	lanceleaf	0.60	\$41	5.0-6.9	6.0	Poor	0.5	Poor	0.5	\$174
Athletic Park	6	Spruce, Blue		0.85	\$50	3.0-4.9	4.0	Poor	0.5	Fair	0.7	\$187
Athletic Park	7	Spruce, Blue		0.85	\$50	3.0-4.9	4.0	Poor	0.5	Fair	0.7	\$187
Athletic Park	42	Aspen		0.55	\$50	3.0-4.9	4.0	Fair	0.7	Good	0.8	\$193
Athletic Park	34	Aspen		0.55	\$50	3.0-4.9	4.0	Good	0.8	Good	0.8	\$221
Athletic Park	26	Pine, Austrian		0.75	\$44	3.0-4.9	4.0	Fair	0.7	Good	0.8	\$232
Athletic Park	58	Crabapple		0.75	\$64	3.0-4.9	4.0	Poor	0.5	Good	0.8	\$241
Athletic Park	21	Aspen		0.55	\$50	5.0-6.9	6.0	Poor	0.5	Good	0.8	\$311
Athletic Park	25	Maple, Silver		0.65	\$50	5.0-6.9	6.0	Poor	0.5	Fair	0.7	\$321
Athletic Park	47	Aspen		0.55	\$50	7.0-8.9	8.0	Very Poor	0.3	Good	0.8	\$332
Athletic Park	35	Narrowleaf Cottonwood		0.60	\$41	5.0-6.9	6.0	Good	0.8	Fair	0.7	\$389
Athletic Park	37	Narrowleaf Cottonwood		0.60	\$41	5.0-6.9	6.0	Good	0.8	Fair	0.7	\$389
Athletic Park	38	Narrowleaf Cottonwood		0.60	\$41	5.0-6.9	6.0	Good	0.8	Fair	0.7	\$389
Athletic Park	40	Birch		0.75	\$72	3.0-4.9	4.0	Good	0.8	Good	0.8	\$434
Athletic Park	50	Aspen		0.55	\$50	5.0-6.9	6.0	Fair	0.7	Good	0.8	\$435
Athletic Park	1	Aspen		0.55	\$50	5.0-6.9	6.0	Good	0.8	Good	0.8	\$497
Athletic Park	20	Pine, Austrian		0.75	\$44	5.0-6.9	6.0	Fair	0.7	Good	0.8	\$522
Athletic Park	27	Pine, Austrian		0.75	\$44	5.0-6.9	6.0	Good	0.8	Good	0.8	\$597
Athletic Park	45	Willow		0.60	\$45	7.0-8.9	8.0	Fair	0.7	Fair	0.7	\$665
Athletic Park	36	Narrowleaf Cottonwood		0.60	\$41	7.0-8.9	8.0	Good	0.8	Fair	0.7	\$692
Athletic Park	14	Narrowleaf Cottonwood		0.60	\$41	7.0-8.9	8.0	Fair	0.7	Good	0.8	\$692
Athletic Park	22	Spruce, Blue		0.85	\$50	5.0-6.9	6.0	Good	0.8	Good	0.8	\$769
Athletic Park	41	Aspen		0.55	\$50	7.0-8.9	8.0	Fair	0.7	Good	0.8	\$774
Athletic Park	43	Aspen		0.55	\$50	7.0-8.9	8.0	Fair	0.7	Good	0.8	\$774
Athletic Park	32	Hybrid Cottonwood		0.60	\$41	7.0-8.9	8.0	Good	0.8	Good	0.8	\$791
Athletic Park	33	Hybrid Cottonwood		0.60	\$41	7.0-8.9	8.0	Good	0.8	Good	0.8	\$791
Athletic Park	13	Narrowleaf Cottonwood		0.60	\$41	7.0-8.9	8.0	Good	0.8	Good	0.8	\$791
Athletic Park	15	Narrowleaf Cottonwood		0.60	\$41	7.0-8.9	8.0	Good	0.8	Good	0.8	\$791
Athletic Park	16	Narrowleaf Cottonwood		0.60	\$41	7.0-8.9	8.0	Good	0.8	Good	0.8	\$791
Athletic Park	56	Crabapple	spring snow	0.75	\$64	5.0-6.9	6.0	Good	0.8	Good	0.8	\$868
Athletic Park	57	Crabapple	spring snow	0.75	\$64	5.0-6.9	6.0	Good	0.8	Good	0.8	\$868
Athletic Park	48	Aspen		0.55	\$50	7.0-8.9	8.0	Good	0.8	Good	0.8	\$884
Athletic Park	49	Aspen		0.55	\$50	7.0-8.9	8.0	Good	0.8	Good	0.8	\$884
Athletic Park	52	Aspen		0.55	\$50	7.0-8.9	8.0	Good	0.8	Good	0.8	\$884
Athletic Park	24	Pine, Austrian		0.75	\$44	7.0-8.9	8.0	Good	0.8	Good	0.8	\$1,061
Athletic Park	46	Aspen		0.55	\$50	9.0-10.9	10.0	Good	0.8	Fair	0.7	\$1,209
Athletic Park	44	Aspen		0.55	\$50	9.0-10.9	10.0	Fair	0.7	Good	0.8	\$1,209
Athletic Park	55	Cottonwood	lanceleaf	0.60	\$41	9.0-10.9	10.0	Good	0.8	Good	0.8	\$1,236
Athletic Park	30	Hybrid Cottonwood		0.60	\$41	9.0-10.9	10.0	Good	0.8	Good	0.8	\$1,236
Athletic Park	31	Hybrid Cottonwood		0.60	\$41	9.0-10.9	10.0	Good	0.8	Good	0.8	\$1,236
Athletic Park	54	Willow	weeping	0.60	\$45	11.0-12.9	12.0	Fair	0.7	Good	0.8	\$1,709
Athletic Park	51	Cottonwood	lanceleaf	0.60	\$41	13.0-14.9	14.0	Good	0.8	Good	0.8	\$2,422
Athletic Park	53	Cottonwood	lanceleaf	0.60	\$41	19.0-20.9	20.0	Good	0.8	Good	0.8	\$4,944

Athletic Park Unit Individual Tree Risk Ratings

Unit	Tree_ID	Species	DBH	Total Risk Rating
Athletic Park	53	Cottonwood	19.0-20.9	14



Athletic Park Unit Priority #1 Management Needs



Athletic Park Unit - Prioritized Tree Management Needs for Risk Rated Trees											
Unit	Tree ID	Species	DBH	Mgmt Need #1	Comments	Mgmt Need #2	Comments	Mgmt Need #3	Comments	Total Risk Rating	Mitigation
Athletic Park	53	Cottonwood	19.0-20.9	Structure Prune						14	

Athletic Park - Unit Description and Management Recommendations

The Athletic Park Unit is south of Chipeta Drive and west of County Road 3A. The west side is bound by private property that is accessed via Sabeta Drive. The trees in this unit are all fairly young but many suffer from inadequate water, poor soil conditions and poor tree selection for the site. Aspen is the most common species in this unit, making up 26%, with Narrowleaf Cottonwood as a close second at 15%, Blue Spruce at 13% and Crabapple and Hybrid Cottonwood both at 10%. The remain species including Austrian Pine, Lanceleaf Cottonwood, willow, birch, Bristlecone Pine, Scotch Pine and Silver Maple all make up between 1 and 8% each. This unit has been planted with diversity in mind which is important for determining what will really do well in these particular soils and with the current watering regime.

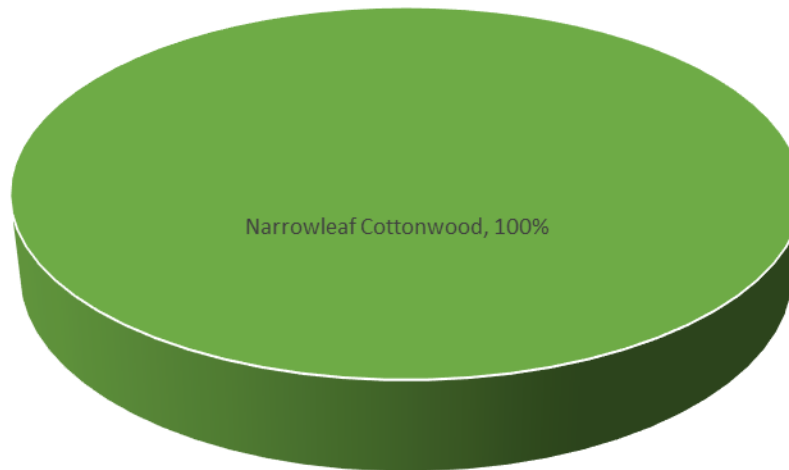
Some more water-loving species like blue spruce and cottonwood are struggling with a lack of water. The irrigation system and schedule must be assessed for adequate water delivery for tree survival. Early spring water applications are important due to drying spring winds common to the Ridgway area. This can be difficult due to the potential of freezing irrigation lines, but if possible early spring moisture should be applied often and at long enough intervals to reach tree roots and not just shallow grass roots. Tree typically need more water less often then turf. Dry spells through extended periods during a summer season can be harmful as well and may warrant increased deep watering applications to accommodate excessive transpiration from the trees. Care must be taken to provide a regular, reliable and relatively adequate water supply to each and every tree to ensure their health and longevity on the site. It may be necessary to select species that are more suited to dry, poor quality soil conditions if water and fertility issues cannot be addressed.

Early and preventative management in the form of routine pruning, clearance pruning and structure pruning will also ensure that this relatively young stand of trees will persist and provide safe, valuable shade and aesthetic beauty well into the future.

DENNIS WEAVER MEMORIAL - Unit Maps, Tables and Charts



Dennis Weaver Memorial Unit - Species Diversity



Dennis Weaver Memorial Unit Individual Tree Values

Unit	Tree_ID	Species	Species_Ot	Species Factor	Basic Price	DBH	Ave DBH	Condition	Condition Factor	Placement	Placement Factor	Value
Dennis Weaver Memorial Park	5	Narrowleaf Cottonwood		0.60	\$41	9.0-10.9	10.0	Fair	0.7	Fair	0.7	\$946
Dennis Weaver Memorial Park	4	Narrowleaf Cottonwood		0.60	\$41	11.0-12.9	12.0	Poor	0.5	Fair	0.7	\$973
Dennis Weaver Memorial Park	3	Narrowleaf Cottonwood		0.60	\$41	11.0-12.9	12.0	Fair	0.7	Fair	0.7	\$1,363
Dennis Weaver Memorial Park	6	Narrowleaf Cottonwood		0.60	\$41	11.0-12.9	12.0	Fair	0.7	Fair	0.7	\$1,363
Dennis Weaver Memorial Park	2	Narrowleaf Cottonwood		0.60	\$41	11.0-12.9	12.0	Good	0.8	Fair	0.7	\$1,557
Dennis Weaver Memorial Park	9	Narrowleaf Cottonwood		0.60	\$41	13.0-14.9	14.0	Fair	0.7	Fair	0.7	\$1,855
Dennis Weaver Memorial Park	1	Narrowleaf Cottonwood		0.60	\$41	13.0-14.9	14.0	Fair	0.7	Good	0.8	\$2,120
Dennis Weaver Memorial Park	8	Narrowleaf Cottonwood		0.60	\$41	13.0-14.9	14.0	Good	0.8	Good	0.8	\$2,422
Dennis Weaver Memorial Park	7	Narrowleaf Cottonwood		0.60	\$41	23.0-24.9	24.0	Poor	0.5	Good	0.8	\$4,449

Dennis Weaver Memorial Unit Individual Tree Risk Ratings

Unit	Tree_ID	Species	DBH	Total Risk Rating
Dennis Weaver Memorial Park	7	Narrowleaf Cottonwood	23.0-24.9	17



Dennis Weaver Memorial Unit Priority #1 Management Needs



Dennis Weaver Memorial Unit - Prioritized Tree Management Needs for Risk Rated Trees											
Unit	Tree ID	Species	DBH	Mgmt Need #1	Comments	Mgmt Need #2	Comments	Mgmt Need #3	Comments	Total Risk Rating	Mitigation
Dennis Weaver Memorial Park	7	Narrowleaf Cottonwood	23.0-24.9	Defective Prune	deadwood	Mitigate Water					17

Dennis Weaver Memorial - Unit Description and Management Recommendations

This unit is at the far north end of the Town's boundary. It straddles the Uncompahgre River just south of the bridge on the private drive that accesses Riversage Subdivision. Most of this unit is a natural area. Only 9 trees were inventoried in this unit due to concerns for public safety along the bike path east of the river and at a popular picnic table on the west side of the river.

Tree ID #7 is on the west side of the river and currently shades a picnic table below it. Defective pruning work, simply moving the picnic table out from under the tree to a safer location and applying water to the drip line of this tree will reduce the current and future risk posed by the tree. This area has a caretaker that was very interested and motivated to improve the health and wellbeing of this tree and others in the Dennis Weaver Memorial Park. There is one tree on the east side of the bike path and river that needs to be removed due to target canker which can infect other nearby cottonwoods. The other trees on the bike path are in need of defective pruning to prevent deadfall onto pedestrians. This hillside is quite arid and this cluster of trees may do better if thinned by removing a couple more trees and understory shrubs at least 10 feet out from the dripline of the cluster. Applying a two to three inch layer of wood chips to this cluster of trees as well as the tree near the picnic table may help conserve water and prevent regrowth of competing shrubs and grasses. Be careful not to pile any wood chips up against the bark of any trees. Maintain at least a 3 inch gap to prevent rot and tree collar suffocation.

The natural area is comprised primarily of Pinion Pine and juniper in the upland areas and Narrowleaf Cottonwood, Buffaloberry, willow and other riparian species along the lowland areas nearer the river. The pinion/juniper could be lightly thinned to provide more growing room for residual trees and to maintain adequate age class and species diversity. Between five and ten feet of crown separation between the healthier trees of varying sizes and age classes should improve individual tree vigor and health which will make them more resilient to insect and disease infestations in the future. Stressed trees attract beetles such as Pinion Ips and Twig Beetle populations of which are in no short supply in the general vicinity. Juniper trees can also be killed by cedar beetles. There have been several recent and fairly widespread (10 mile radius) outbreaks of Tiger Moth affecting both juniper and Pinion Pine. There is also an unidentified fungus that has been causing early and dramatic needle casting by the Pinion Pine along County Road 1 going up the south-facing escarpment of Log Hill. This fungus does seem to be causing mortality where pinion/juniper stands are so thick that their crowns are touching each other. Although unidentified at this time, what is known is that fungus thrives in moist conditions, so providing more air circulation through a forest canopy by thinning it can reduce the spread potential of the fungus. The more proactively managed a forest is before there is an immediate threat, the less likely it will succumb to pests.

If some larger shade trees are desired nearer the river for human benefits, protection from beavers and deer is crucial. Metal cages that are at least three times the diameter of the tree and at least five or six

feet tall will provide the best defense. Once the tree has grown thick enough bark to sustain damage from antlers, the cage can be cut down in height for prevention of beaver damage. These shorter cages will likely need to be maintained in perpetuity since beaver populations will almost always be present at one time or another in this natural, riparian corridor. Care must be taken to not forget about the cages and allow them to strangle the tree or cause wounds that could become infected with canker.

The Colorado State Forest Service sells riparian tree and shrub species should the town be interested in diversifying this riparian habitat for increased wildlife diversity. However, a separate, more detailed assessment is recommended by a CSFS forester and Natural Resource Conservation Service wildlife biologist before any specific recommendations can be made.

INDUSTRIAL PARK & GREEN STREET RIGHT OF WAY - Unit Map



Industrial Park and Green Street Right of Way - Unit Description and Management Recommendations

This unit is shown on the attached map and includes trees along the Industrial Park and Green Street right of ways. Roughly 130 Lanceleaf Cottonwoods, one crabapple and 3 blue spruce are within this unit. The cottonwoods are from 2" to 12" in DBH. The crabapple and spruce are sapling sized.

In general, this unit has some serious problems. Lack of diversity, inadequate water, deer damage, canker, poor form including multiple leaders and poor planting techniques are all contributing to very unhealthy trees. First, poor planting technique needs to be identified. If the tree is planted too deep, it will likely continue to struggle and the town would be better off replacing that tree with another of a different species appropriate for this site. Small to medium and even medium/large sized trees, if columnar in form, would be good choices for these right of ways. Regularly scheduled and adequate water needs to be applied to these trees and checked monthly for operability and effectiveness throughout the growing season. Some trees appear to have drip lines at their base, but whether they work and for how long and how often is unclear. There are several newly planted cottonwoods that have excellent deer protection – wide and tall and sturdy metal cages. These should remain on these planted trees for at least 10 years or until the bark becomes well thickened and furrowed at least 6 feet up the stem. Deer antler rubbing is a major problem for thin barked species such as cottonwood and they will not recover well due to the high probability of canker and poplar borer infections. When planting new trees, be sure to plant them with their root flare above the soil. This may require digging down into the planting pot or burlap ball to find it, but is absolutely crucial to a tree's survival. (Refer to Appendix M for general information on tree planting) Removal of competing grass by laying down weed barrier fabric and wood chips at least 3 feet from the base of the tree and no more than 3 inches deep, will also help retain a more stable soil moisture and temperature conducive to root growth. This will also remove any temptation to weed whack around the base of the trees which has commonly caused tree mortality in Community settings. As newly planting saplings grow to maturity, very cheap and effective pruning techniques can be applied by professional foresters or arborists to prevent more expensive and dangerous pruning techniques later when the tree is much larger and more of a hazard to itself and targets. (Appendix L contains general information on proper pruning techniques) Please consult with the CSFS for a training on how to apply these techniques.

For those trees that are surviving and some at the south end of this unit are actually doing fairly well, multiple leaders have developed. Where possible, these two and sometimes three-stemmed tops should be structurally pruned to establish only one dominant leader. This will reduce the likelihood of wind splitting the tree in half due to poor connecting wood where multiple leaders meet. Where these healthy trees reside, an examination of their watering regime should be noted so that, if possible, it can be mimicked throughout the rest of the unit.

Conclusion

The Town of Ridgway is very fortunate to have a staff and some volunteers interested in improving their Community forests. The benefits of Community trees abound throughout the world, yet they are often taken for granted and not shown the care they require until they are visibly and sometimes irreversibly, sick. It takes a lot of time, effort and money to maintain a healthy, productive Community forest, especially where it is not easy to grow trees in the first place, like Ridgway, Colorado.

The extensive database provided is a detailed compilation of each tree's assets and downfalls. This plan's tables and charts, summarizing tree data by unit, provide a general perspective on where the town should focus its efforts initially until a more solid foundation can be built to support each and every one of Ridgway's town trees. There are a multitude of management recommendations to consider in this plan and a limited staff and budget to consider when implementing it. However, never underestimate the power of an ambitious, educated and conscientious volunteer base. CSFS can provide the education if the Town can provide the volunteers. Volunteers can be a valuable asset in performing some of the lower level risk management recommendations noted throughout this plan such as tree planting, sapling tree pruning, cultural treatments like wire cage adjustments, guy wire removal, weed barrier fabric and wood chip applications, etc. Hired arborists previously utilized have had profoundly positive impacts on maintaining the longevity of the oldest trees in Ridgway. ISA Certified Arborists, such as these, should continue to be consulted with future technical tree limbing, felling and sound wood inspections.

This plan and associated database are living documents, should be updated annually and fully redone every five years or if conditions of the Community forest drastically change. The CSFS is available to make annual database updates, complete future inventories, provide training to staff/volunteers and provide any other technical assistance relative to the Town of Ridgway's Community forest care.

References

Pokorny, Jill D. Coordinating Author, Plant Pathologist. 1992. **Community Tree Risk Management: A Community Guide to Program Design and Implementation**. St. Paul, MN: US Department of Agriculture, Forest Service, Northeastern Area State and Private Forestry.

Plantmaps website <http://www.plantmaps.com/81432> for cold hardiness zones.

Appendices

Appendix A: Pruning Management Need Descriptions

Appendix B: Tree Value Formula

Appendix C: Risk Rating Criteria and Ratings

Appendix D: Electronic Database CD

Appendix E: Service Agreements

Appendix F: Recommended Species to Plant in Ridgway

Appendix G: Tree Pests of Concern Informational Brochures (Top 7)

Appendix H: Converting Hazardous Trees into Wildlife Trees

Appendix I: Sample City Tree Ordinance

Appendix J: Tree Board and Tree Care Program

Appendix K: Advanced Wood Decay Detection

Appendix L: Best Management Practices: Tree Pruning

Appendix M: Tree Planting Brochure

Appendix N: Benefits of Community Forests

Appendix N: Benefits of Community Forests

Source: USDA Forest Service, [Urban and Community Forestry](#)

Trees for People: Community Forestry 101

Trees Cool Cities and Save Energy

- Strategically planted Community trees reduce energy use by shading buildings in summer and blocking cold winter winds
- As they grow trees remove carbon dioxide and other greenhouse gasses from the atmosphere and sequester them in their leaves, branches, trunks and roots.

For more information: [Center for Community Forest Research](#)

Trees Strengthen Quality of Place and the Local Economy

- Increase property values by 10 to 20 % and attract more homebuyers
- Increase municipal revenue through property tax assessments
- Community parks provide the settings for festival and other special events that add millions of dollars to the local economy
- In retail/commercial districts shoppers spend more time and money and come back more often
- Give people places to recreate, connect with nature and experience a sense of well being

For more information: [Human Dimensions of Community Forestry and Community Greening at the University of Washington](#)

Trees Improve Social Connections

- Planting trees is one of the most valuable ways engage residents
- Creates safer, supportive neighborhoods working for a common vision
- Are a Focal point for community revitalization
- Relieves mental fatigue and impulse control, restoring concentration
- Offers a sense of place and improves the quality of life
- Strengthens the social and economic components of environmental justice

For more information: [Landscape and Human Health Laboratory at the University of Illinois at Champaign](#)

Trees Create Walkable Communities

- Tree-lined streets encourage people to walk in their communities and walk further
- Street trees have been shown to calm traffic through neighborhoods
- Strengthen Complete Street policies for all users
- Making streets more walkable and pedestrian encourages transit oriented development

Trees Improve Air Quality

- By absorbing gaseous pollutants through their leaves
- Binding or dissolving water soluble pollutants onto leaf surfaces
- Intercepting and storing pollutants on the leaf surfaces
- Capturing and storing air pollutants in the uneven, rough branches and trunk
- Sequestering CO₂ in trunk, branches and roots
- Shading buildings and pavement reduces the demand for air conditioning and the formation of ozone

For more information: [Northern Research Station](#)

Trees Reduce Storm Water Runoff

- Trees act as sponges that keep water onsite and recharge the groundwater
- A typical Community forest of 10,000 trees will retain 10 million gallons of rainwater per year
- Reduce the amount of runoff and pollutants into creeks
- While manmade drainage systems such as sewers and storm drains accelerate the flow of polluted water through community, trees slow it down and clean the water
- Tree canopies and roots protect the soil from erosion
- More trees equals lower costs for storm water management

For more information: [Center for Community Forest Research](#)

Trees Help Promote Smart Growth

- Strengthen the Community core by improving public social space and the walking experience
- Give people access to nature in the city
- Add breathing room to more compact development
- Separate incompatible uses and buffer noise pollution
- Support mixed use that improves real estate values and the local economy
- Create an interconnected framework of green infrastructure that recovers ecological function, biodiversity and wildlife habitat

For more information: [Smart Growth Network](#)