

# Trees for Townsend A Gift for Future Generations



Adapted for Townsend  
from  
"Putting Down Roots"  
Growing Friends of Helena, 2002  
Brad Emarine, Lead Technical Writer and Illustrator  
Sally Hilander, Editor

**Trees for Townsend**  
**A Gift for Future Generations**  
by the BHS Publications Class and Townsend Tree Board



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Townsend Tree Board

with  
Technical and Production Assistance by  
Shearer Communications, Townsend, MT

Reproduced by  
Valtron Recording Studio  
913 Granite Avenue  
Helena, MT

December 2006



This publication made possible by a Montana Department of Natural  
Resources and Conservation Mini-Grant awarded to the Townsend K-12  
School District #1

For copies of the publication on CD or hard copy @ cost  
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## ACKNOWLEDGMENTS FOR *Putting Down Roots*

This handbook represents a large group effort by the Growing Friends of Helena. Brad Emarine prepared the original draft of the tree species and hand sketched most of the leaves and tree shapes in the book. Clayton Berg and Mike Hiel offered many helpful corrections and additions to the draft.

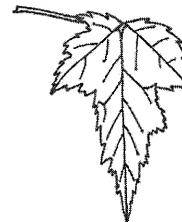
Nancy and Adam McLane spent countless hours shepherding the handbook through its first phase. Sally Hilander pulled the pieces together, editing, designing, and laying out the final product. She and Paul Cartwright wrote the general text.

Throughout the production of this handbook, Growing Friends of Helena received advice from independently owned nurseries in Helena. Growing Friends members, and some nonmembers as well, located and identified trees, reviewed text, and generally worked to move the handbook along. Among the others who helped are Karen Chadwick, Andy Flynn, Mikal Kellner, Dick Mayer, John McEwen, Sue Newell, Betsy Nordell, Jan Novy, Les Pedersen, Ann Prunuske, Rich Lynd, Bob Throssell, and Bob Werner. Special thanks to Ed Burke, a dendrology instructor at the University of Montana School of Forestry, who volunteered on short notice to confirm many tree species from leaves, bark, and fruit we mailed to him.

If we've missed anyone, please accept our apologies and let us know so we can include you in our second edition.

*Putting Down Roots* has benefited immensely from the suggestions and contributions of all these individuals, and Growing Friends accepts the responsibility for any errors. If you find one, let us know and we will correct it in the next edition.

Of course, whatever happens with your planting is between you and your tree. Best of luck.



## ACKNOWLEDGMENTS FOR *Trees For Townsend*

The Townsend Tree Board wanted to produce a handbook on trees adapted to the Townsend area like *Putting Down Roots* produced by the Growing Friends of Helena. There was no sense re-inventing the wheel. *Putting Down Roots* is a great model that could easily be adapted for the Townsend and Broadwater County area. The Tree Board approached the Growing Friends with the idea and Growing Friends graciously agreed to allow the Townsend Tree Board to use as much of *Putting Down Roots* as needed. The Tree Board and Townsend thank Growing Friends. This handbook was not possible without their generous support.

Tree information was updated from a brochure, *Townsend Tree Board Trees for the Townsend Area*, produced by the Tree Board in cooperation with Ann Prunuske of Chadwick's Nursery in Helena and published by the Broadwater County High School Publications Class in 2005. Funding for the brochure was provided by a DNRC Mini-grant.

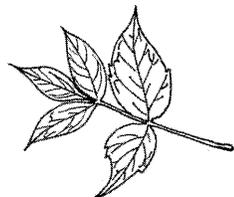
The Tree Board has also updated Townsend tree information based on the tree inventory conducted by the Tree Board and the Broadwater County High School Bug and Weed Project in 2005. Funding for the tree inventory was provided by the DNRC Urban Community Forestry Program.

The Tree Board has added some new tree species, varieties, and cultivars recommended by Ann Prunuske from Chadwick's Nursery in Helena.

The covers were designed by Haley Anderson, a senior at Broadwater County High School as a Publications Class project in May 2006.

Special thanks goes to Joni Shearer, from Shearer Communications of Townsend for scanning the original *Putting Down Roots* so it could be adapted for Townsend and then putting the final handbook together for publication.

Funding to publish this handbook was provided by a DNRC Mini-grant. Thanks to Valtron Recording Studios of Helena for publishing the handbook on CD.



*Patrick Plantenberg,  
Townsend Tree Board Member, December 2006*

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## FOREWORD FROM

### *Putting Down Roots*

*By Paul Cartwright, Growing Friends of Helena President*

Choosing and planting a tree on your own can be daunting: so many possibilities, so many unknowns. And it's not easy to fire up for a project that pays the biggest dividends far into the future. Don't let that slow you down.

Like a shovel, this book is a tool for planting trees. Read it as a first step to putting a tree in the ground. It will give you a quick insight on what different trees are like. Not all of the trees you remember from other places you've lived or visited can grow here, but many can. Take a look at the specimens. Narrow down your choices. Then, talk to one of the nurseries in town. Their business is to know trees.

A new tree is an improvement to your property and to your neighborhood. Trees make places to play. They can make roads safer for drivers and walkers. They reduce noise, shade your house and yard in the summer, and provide a windbreak.

Beyond their utilitarian virtues, trees mark the slow fabric of time. There may be a season for everything, but we need to feel the passing of the seasons to appreciate that.

You plant trees because you care about the future. It's good for all of us that you do.

*The Townsend Tree Board agrees.*



## A Few Notes About The Book

When the Townsend Tree Board embarked on this project, its goal was to provide general guidelines for Townsend and Broadwater County residents who want to plant trees on their property, but perhaps don't know what kind to buy. Bookstores and libraries have technical guides to trees, published nationally by Simon and Schuster, the Audubon Society, Peterson Field Guides, and many others. No need to duplicate their efforts. The Internet is also a tremendous resource. The list does not include shrubs that are adapted to Townsend. The Tree Board decided to concentrate on tree forms for this booklet.

### Our Advice is Locally Grown

We wanted something local, based on practical knowledge and actual experience. The Tree Board selected trees that grow in Townsend and the Helena area. In some cases, we've included trees that are marginal in our climate because they are timeless favorites or new interesting varieties and people want to try them. All trees we've listed will grow *somewhere* in the Townsend area, but some are sensitive to the microclimate in which they are planted. We've been candid about ones that are sensitive or flat out not hardy in Townsend.

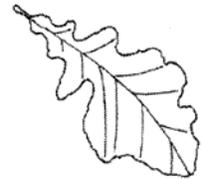
The tree heights listed in *Trees for Townsend* are those most likely to be achieved at maturity in Townsend. They may not grow as tall here as they might in a less challenging climate. The tree outlines in the handbook are proportional to the height of the tree, so you can compare them.

### Varieties, Cultivars Too Numerous to Mention

Generally, we have listed only tree species and one or two varieties or cultivars that have been particularly popular or successful in the Townsend and Helena area. New varieties and cultivars are being released all the time. The Tree Board was not successful in identifying varieties and cultivars for many of the old established trees in town. As always, ask the local nurseries for types that are most suitable for your location.

### Buy, Don't Kidnap Your Trees!

An outline of Montana indicates a species native to some part of our state. It may or may not grow in Townsend, depending on conditions. Here we quote the Montana Native Plant Society guidelines: *Please do not dig up trees in the wild!* Digging disturbs the soil and opens it up for erosion and noxious weed invasion, further threatens species that may be rare or endangered, and upsets the balance of our delicate native ecosystems. Besides, it is difficult to get a complete root system, so transplant survival rate is low. Finally, it is illegal to dig up trees on public property. Local nurseries provide healthy specimens with intact root systems and most guarantee their stock at least through the growing season.



### Feathered Friends are Invited

Trees particularly attractive to birds are noted in the text, but remember trees in general benefit birds by providing shelter, safety, and food. Plant a tree and the birds will come.

### Public Locations

Most tree specimens in *Trees for Townsend* are located on city or county owned property. A few specimen trees are on private property, but only can be viewed from public streets or sidewalks. Locations are as specific as possible, but in some cases, you may need to walk to the general area and match the shape of the leaf in the handbook with the tree.

### Broadleaves and Conifers

Trees on our list are grouped into broadleaves and conifers. Generally, broadleaves are trees that lose their leaves in the fall. Conifers generally keep their needles all year round. Larches, which shed needles before winter, are conifers and appear in that section.

### Feedback Please

If you know of other specimens we ought to include in the next edition of *Trees for Townsend*, please contact Patrick Plantenberg at 266-3911. With your help we can publish even better future editions. The next edition will include color photos of the trees on the CD.

# An Introduction To The Broadleaves

Broadleaf trees include most of the leafy varieties we use in landscaping- aspens, birches, oaks, elms, maples, lindens, and so on. Their foliage consists of flat leaves in a wide variety of shapes: round, elliptical, oblong, linear, toothed, and smooth. In our growing zone, all broadleaf trees are deciduous, which means they shed their leaves for the winter. Many have beautiful flowers in the spring and most provide a brilliant color show in the autumn.

Broadleaf trees have bark that ranges from smooth to rough, with everything in between. Bark color varies from brown to gray to red or white. Broadleaf tree shapes vary greatly, too, and they grow from 8 to 80 feet tall.

On the following pages we introduce some of the broadleaf trees that seem to do best in the Townsend and Helena area, based on the experience of local nurseries, the Growing Friends of Helena, the Townsend Tree Board, and others. We have not listed fruit trees. If you want to try something that isn't listed in this handbook, go ahead and ask your local nursery.

If your local nursery offers it, it probably will grow somewhere in the Townsend and Helena area. Some trees offered at the national chain store nurseries will not survive in our area. Be sure to keep the microclimate in mind.



The broadleaf species included in this book include the following genera: *Acer*, *Aesculus*, *Alnus*, *Betula*, *Catalpa*, *Celtis*, *Crataegus*, *Elaeagnus*, *Fraxinus*, *Gleditsia*, *Gymnocladus*, *Juglans*, *Malus*, *Phellodendron*, *Populus*, *Prunus*, *Pyrus*, *Quercus*, *Rhus*, *Robinia*, *Salix*, *Sorbus*, *Syringa*, *Tilia*, *Ulmus*, and *Viburnum*.

# An Introduction To The Conifers

Conifers are trees that bear cones, although Junipers (*Juniperus*) are an exception, producing berries rather than cones. Conifers are softwoods and most have scalelike or narrow "leaves" – usually called needles – and are evergreen.

The exception to this rule in our growing area is Larch, which turns bright yellow and drops its needles in autumn. The entire Larch genus, *Larix*, includes only about 10 species and of those, only a couple are native to the Pacific Northwest. We've cautiously included some Larches that *can* grow in the Townsend area, but in all honesty, they are more comfortable west of the Continental Divide.

Another aberration about conifers would be the widespread Douglas Fir, which really isn't a Fir (*Abies*) at all. Douglas Fir is the name of an entire genus, *Pseudotsuga*, which in Latin means "false hemlock" and includes six species. In *Trees for Townsend*, we include the only Douglas Fir native to the Pacific Northwest, *Pseudotsuga menziesii*.

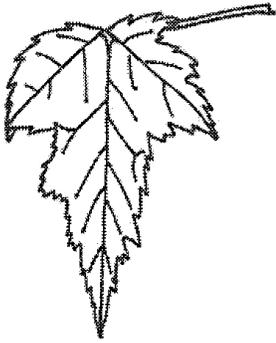
The other genera among the conifers are Firs (*Abies*), Pines (*Pinus*), including Montana's state tree, the Ponderosa Pine, Spruces (*Picea*), and Arborvitae (*Thuja*). We introduce some of the best Pines, Firs, Spruces, Junipers, Arborvitae, and Larches for Townsend on the following pages.

Conifers in general are nice landscaping trees because of their variation in size, shape, and color. They are hardy and provide excellent shade. Because of their year-round density, they are effective at sheltering our homes from the wind and buffering them from city noise.

They have not been recommended for boulevard trees as they can block visibility for traffic near intersections.



# Trees Recommended for Boulevards and for General Use in the Townsend Area (Broadleaf)



## Amur / Ginnala Maple

*Acer ginnala*

SHAPE: Dense, irregular, low-branching, upright-spreading, round-headed.

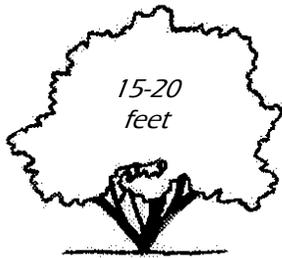
FOLIAGE: 3-lobed green leaves turn red in autumn, particularly in sunny sites.

FEATURES: Clusters of small, fragrant, creamy-white flowers appear as leaves are developing. Some varieties have attractive red-winged seeds in summer. Moderate growth rate. Available in single and multiple stem forms. A small graceful tree or large shrub. Single stem form recommended for boulevard locations.

GROWING CONDITIONS: Prefers full sun and moist soil. Subject to iron-deficiency in highly alkaline soils. Needs wind protection. Wrap bark of young maples in winter. Overwatering can cause yellow leaves in summer.

COMMENTS: Hardest strains include 'Flame' and 'Red Rhapsody'. Zone 2-3. 15-20 feet tall and wide at maturity. Introduced plant. Trees produce typical maple winged seed pods called samaras. Deer resistant. Needs iron supplement in Townsend soils. Useful for small areas. Approved for use under power lines. Won't break sidewalks in boulevards like larger trees.

LOCATIONS: Three plants in boulevard at 601 Broadway. One plant at 133 North Maple on east side of house immediately south of front door facing Maple and planted within 4 feet of the house. One tree in front of the Broadwater County Courthouse just west of the main sidewalk and close to Broadway.



## 'Sensation' Box Elder

*Acer negundo* 'Sensation'

SHAPE: Open, spreading, oval-headed. 'Sensation' is an improvement over the native species with a more uniform growth habit and better branch structure.

FOLIAGE: Bright green leaves with grayish-green undersides divided into 3 to 5 oval leaflets. Turns yellow to orange-red in autumn.

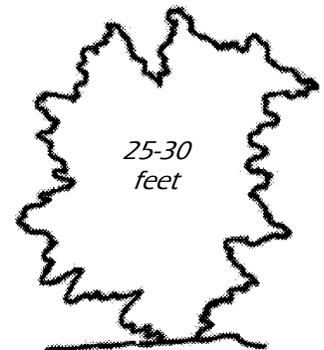
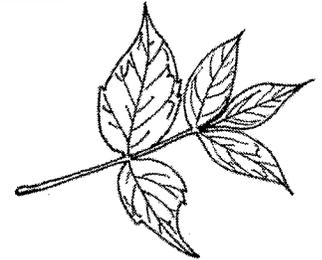
FEATURES: A fast growing tree for cold climates. Branches break easily. Prune regularly to thin branches. Seedless. One of the hardiest medium to large maples. Hardy. Zone 2. Grows to 25-30 feet tall.

GROWING CONDITIONS: Full sun and moist, well-drained soil. Tolerates shade and poor soils.

COMMENTS: Box Elder is native to eastern Montana. Do not use the native plant unless it is guaranteed to be male. The only recommended variety is 'Sensation' from Canada. It is guaranteed male and seedless. 'Sensation' Box Elder is recommended for boulevards if not under a power line or in an area where falling branches could damage property or hurt people. The tops of 'Sensation' Box Elder may die back periodically. Wrap bark of young maples. Needs iron supplement in Townsend soils. Could break sidewalks so use deep root protectors if planted near sidewalks. Most old Box Elders in town are volunteers and are the native female trees that produce many seeds and have red and black Box Elder bugs. Male trees have no pheromones to attract red and black bugs.

LOCATION: 'Sensation' Box Elders are located at 133 N. Maple on the north side of the house facing Second Street. It is the last tree in the lawn next to the street heading west from Maple. 408 North Spruce in the front lawn of the house facing west.

An old native Box Elder is located at 212 N. Oak in the front lawn.



Native



# Tatarian Maple

*Acer tataricum*

SHAPE: Open, wide-spreading, vase-shaped to broadly upright, single- or multi-stemmed.

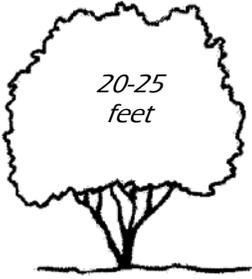
FOLIAGE: Thick bright green leaves turn yellow in autumn. The leaves are not lobed like other maple leaves. Leaves turn yellow to orange in the fall.

FEATURES: Upright clusters of greenish-white flowers. The trees have persistent attractive scarlet winged samaras (seed pods) in mid-summer. Hardier and larger than Amur / Ginnala Maple. Slow to moderate growth rate.

GROWING CONDITIONS: Full sun or partial shade and moist, well-drained soil. Less susceptible to iron-deficiency than Amur / Ginnala Maple.

COMMENTS: Hardest strains include 'GarAnn' and 'Patdell'. Zone 3. 20-25 feet tall at maturity. Introduced plant. Approved for boulevard locations under power lines. Deer resistant. Branches of some plants can be irregular and grow curved upwards or downward. These "wild hairs" need to be pruned. Wrap bark of young maples. Needs iron supplement in Townsend soils. Won't break sidewalks in boulevards like larger trees.

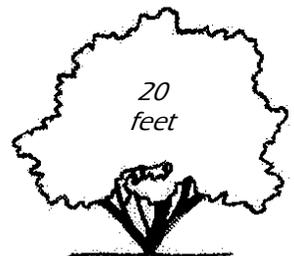
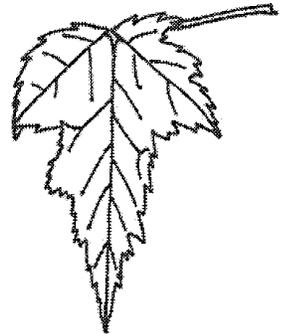
LOCATIONS: 133 North Maple on north side of house facing Second Street between the Subalpine Fir and Sunburst Honey Locust in the lawn next to the street. In front of Broadwater Realty at 321 Broadway.



# Ventura Maple

*Acer x 'Dur 1'*

A new cross between Tatarian Maple and Amur / Ginnala Maple. A vigorous grower with orange to red fall color. Zone 2. Height 20 feet. Worth trying in Townsend and suitable for boulevard locations and under power lines. Introduced plant. Wrap bark of young maples. Needs iron supplement in Townsend soils. Won't break sidewalks in boulevards like larger trees.





# Ohio Buckeye

*Aesculus glabra*

SHAPE: Dense, round-headed.

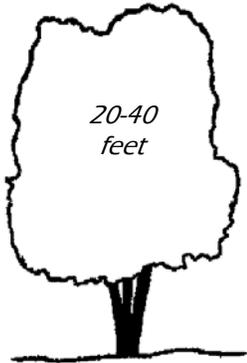
FOLIAGE: Dark green leaves divided into 5 leaflets come out early in spring and lose leaves early in fall. Turns yellow to orange to red in autumn, especially in full sun.

FEATURES: Clusters of showy white or pale yellow flowers in early June. Large inedible nuts.

GROWING CONDITIONS: Prefers full sun or partial shade and moist, well-drained soil. To get best results plant in deep rich soil. Tolerates dry soils and wind.

COMMENTS: Only buy hardy northern strains. Hardy. Zone 3. Slow to moderate growth rate. 20-40 feet tall. Recommended for boulevard locations but not under power lines. Introduced plant. State tree of Ohio. Needs iron supplement in Townsend soils. Won't break sidewalks in boulevards like larger trees. A new cross between *Aesculus glabra* and *A. arnoldiana* called 'Autumn Splendor' is available. The leaves turn maroon in fall in full sun. This new cross has large yellow-red flowers in spring followed by large light brown fruit capsules. The new cross reaches 40 feet in height, spreads 20-30 feet, and is adapted for Zone 3. This cross would be recommended for boulevards if no power line is overhead. This cross may break sidewalks in boulevards if deep root protectors are not used. The new cross has more dependable fall color in our soils.

LOCATION: 210 North Walnut in lawn southwest of the house. 133 North Maple in front lawn facing Maple; in landscape bed next to southeast entrance to the house and north to the driveway.



# 'Ft. McNair' Red Horsechestnut

*Aesculus x carnea* 'Ft. McNair'

SHAPE: A rounded, handsome tree. Coarse habit because the plant has few, yet large, branches.

FOLIAGE: Large, dull, dark green leaves with lighter undersides, divided into 5-7 leaflets.

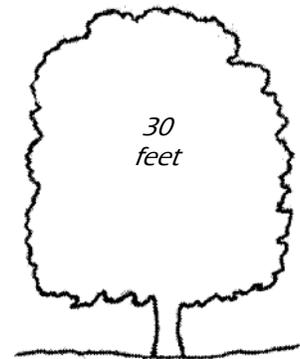
FEATURES: A new cross between *A. hippocastanum* and *A. carnea*.

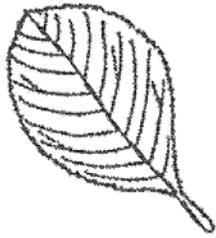
It has large, long, showy scarlet flowers in mid-May followed by 1 1/2 inch fruit. Hardy. Zone 3. Height and spread 30 feet.

GROWING CONDITIONS: Will need an iron supplement in Townsend soils.

COMMENTS: This cross would be worth a try in Townsend and would be suitable for boulevard locations if no power line is overhead. Won't break sidewalks in boulevards like larger trees.

LOCATION: No known location in Townsend.





## Thornless Cockspur Hawthorn

*Crataegus crusgalli* 'Inermis'

SHAPE: Dense, broadly spreading, low-branching, round-headed.

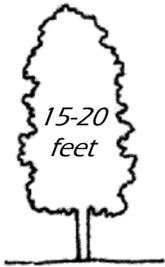
FOLIAGE: Glossy, leathery, dark green leaves with lighter undersides. Turns orange in autumn in full sunlight.

FEATURES: Clusters of white flowers in May. Red berries in autumn. Other hawthorns, including the natives, have numerous thorns. This is a thornless selection. Drought tolerant and deer resistant. It is listed as a Zone 4 plant and needs a protected site. Slow to moderate growth. 15-20 feet tall.

GROWING CONDITIONS: Prefers full sun or partial shade and semi-moist, well-drained soil. Needs wind protection.

COMMENTS: It is a small, adaptable and underused tree adapted for small areas. Approved for boulevard locations under power lines. The red berries may discourage use in business section sidewalks. Won't break sidewalks in boulevards like larger trees. The original *C. crusgalli* is 20-30 feet tall.

LOCATION: None known in Townsend.



## 'Autumn Purple' White Ash

*Fraxinus americana* 'Autumn Purple'

SHAPE: Dense, spreading, oval-headed.

FOLIAGE: Dull green leaves divided into 5 to 9 leaflets that turn purple in autumn.

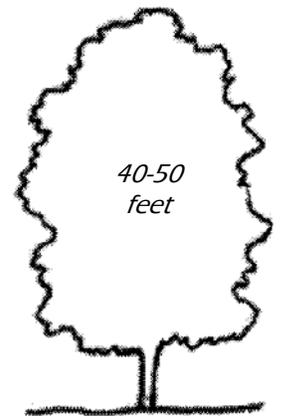
FEATURES: Very coarse habit. Seedless. Leaves out late in spring; drops leaves early in autumn.

Hardy. Zone 4. Moderate to rapid growth. Grows 40-50 feet tall and 35 feet wide. Deer resistant.

GROWING CONDITIONS: Prefers full sun. Tolerates some shade, most soils, drought and wind.

COMMENTS: The best white ash for our climate with reliable fall color and hardiness. Use deep root protectors if planted in the boulevard next to a sidewalk. Not approved for use under power lines.

LOCATIONS: An 'Autumn Purple' White Ash has been planted in the southeast corner of the lawn in front of the Broadwater County Detention Center on the corner of Broadway and Walnut between two Prairie Gem Flowering Pears.



## Manchurian Ash / 'Mancana' Ash

*Fraxinus mandshurica* 'Mancana'



SHAPE: Dense, upright-oval.

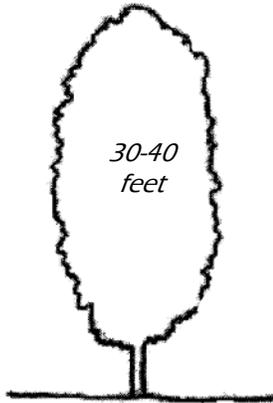
FOLIAGE: Light green leaves divided into leaflets. Long narrow leaflets give it a lacey look. Turns yellow in autumn.

FEATURES: Provides dense shade. Seedless. Tends to shed large and small branches. Hardy. Zone 3. Moderate growth rate. Grows 30-40 feet tall. Spread 25 feet. One of the last trees to leaf out in spring and one of the first to lose its leaves in the fall. Deer resistant.

GROWING CONDITIONS: Prefers full sun and moist, well-drained soil. Needs wind protection.

COMMENTS: Use deep root protectors if planted in boulevard next to a sidewalk. Not recommended under power lines. The original *F. mandshurica* is not as uniform as the 'Mancana' selection.

LOCATION: South side of Heritage Park between a Ginnala Maple and a Hawthorn on either side of the swingset. Two plants in boulevard on west side of North Cedar across from the Episcopal Church.



## 'Fallgold' Black Ash

*Fraxinus nigra* 'Fallgold'

SHAPE: Open, coarse, narrow, upright, oval-headed.

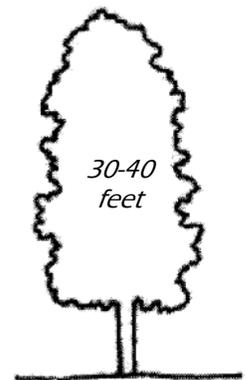
FOLIAGE: Dark green leaves divided into 7 to 11 leaflets that turn bright yellow in autumn.

FEATURES: Good shade tree. Slow to moderate growth. 30-40 feet tall. Seedless.

GROWING CONDITIONS: Prefers full sun or semi-shade and moist soil. Tolerates wet soil conditions. Needs wind protection.

COMMENTS: Canadian selection that is hardy in Montana. Zone 3. The crown (top) of the plant is slow to develop in relation to the trunk diameter. The original Black Ash is not as uniform as the 'Fallgold' selection.

LOCATIONS: No known location in Townsend.





## Green Ash / 'Patmore' Green Ash

*Fraxinus pennsylvanica* 'Patmore'

SHAPE: Dense, spreading, oval-headed.

FOLIAGE: Dull green leaves divided into 5 to 9 leaflets that turn bright yellow in autumn.

FEATURES: The unimproved native plant has historically been used widely in Townsend as a street and shade tree. Leaf out late in spring; drops leaves early in autumn. Hardy. Zone 3. Moderate to rapid growth rate. 40-50 feet tall and 35 feet wide. Deer resistant.

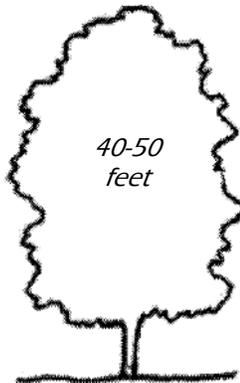
GROWING CONDITIONS: Prefers full sun. Tolerates some shade, most soils, drought and wind.

COMMENTS: The unimproved native and shelterbelt varieties of *F. pennsylvanica* tend to be mostly females and produce the messy seeds. Many branches grow down and need pruning.

The 'Patmore' variety has a desirable branching habit and is guaranteed male without seeds. Some cultivars suffer dieback in test winters. The 'Jordan' strain from north central Montana has good form. Crowns of less hardy varieties produce lots of dead branches. Use deep root protectors if planted in the boulevard next to a sidewalk. Not approved for use under power lines.

Native to eastern Montana woody draws.

LOCATION: The unimproved Green Ashes are all over town on boulevard strips. The 'Patmore' variety can be found on the south and west side of the Elementary School on Second and Pine next to the streets.



## 'Havre' Honey Locust

*Gleditsia triacanthos* var. *inermis* 'Havre'

SHAPE: Open, spreading, arching branches with a delicate, lacy oriental look.

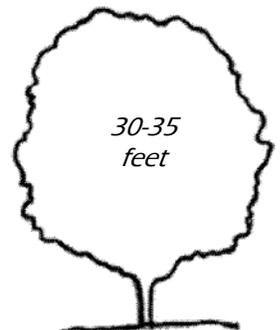
FOLIAGE: Dark green leaves turn yellow in autumn.

FEATURES: Attractive delicate appearing branches. Hardy Zone 3. Moderate growth rate. Up to 30-35 feet tall and wide.

GROWING CONDITIONS: Prefers full sun and semi-moist soil. Tolerant of drought, heat, salt and urban pollution. Needs wind protection.

COMMENTS: Introduced plant. Look for hardy northern strains like 'Havre' and maybe 'Prairie Silk'. Many varieties are Zone 4 and are hurt in test winters. The *G. t. inermis* variety is thornless. 'Havre' was developed in North Dakota and is resistant to insects and disease. This variety does not form seed pods. It is drought and deer resistant. The original *G. triacanthos* was 30-50 feet tall. Approved for use in boulevards but not under power lines. Plant on the south side of the street where it can get protection from winter sun in the shade of building or another tree. Won't break sidewalks in boulevards like larger trees. Grass can grow under these open trees.

LOCATIONS: No known locations in Townsend but a *G. t. inermis* variety can be seen in Helena along 8th Avenue in the Department of Justice parking lot. One variety not recommended for Townsend, 'Sunburst' Honey Locust, is surviving in a protected location at 133 N. Maple facing Second Street, west of a giant Colorado Blue Spruce.





# Kentucky Coffee Tree

*Gymnocladus dioicus* 'Expresso'

SHAPE: Open, spreading, upright-branching, vase shaped to oval tree.

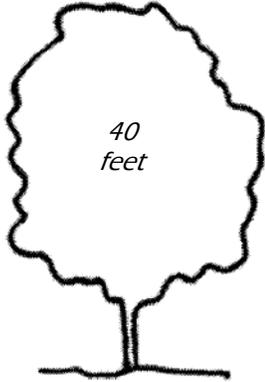
FOLIAGE: Huge doubly-compound, bluish-green leaves divided into 4 to 7 pairs of leaflets. Turns yellow to gold in autumn.

FEATURES: Good shade tree. Fragrant greenish-white flowers on pyramidal panicles. Large brown seed pods stay on all winter. Handsome gray bark. Hardy. Zone 4. Slow to moderate growth rate. 40 feet tall. 35 feet wide. Seedless.

GROWING CONDITIONS: Prefers full sun and well-drained soil. Mature trees tolerate drought, heat, urban pollution and poor soil. Needs wind protection.

COMMENTS: Not recommended under power lines. The original *G. dioicus* was 40-60 feet tall.

LOCATION: No known locations in Townsend. The unimproved variety can be found in Helena in the Carroll College Commons, southwest corner.



# Butternut

*Juglans cinerea*

SHAPE: Open, wide-spreading, round-headed.

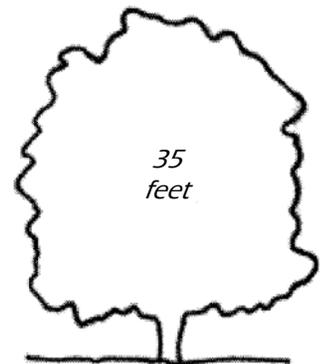
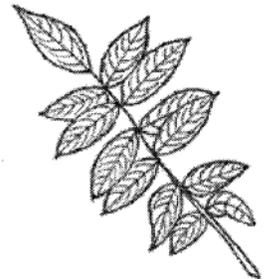
FOLIAGE: Large green leaves, each divided into 7 to 19 leaflets. Light yellow fall foliage.

FEATURES: Large clusters of tasty round nuts, sometimes used in baking. This tree differs from Black Walnut in that it has oblong fruit and bark that is lighter in color and bark that is much smoother.

GROWING CONDITIONS: Prefers full sun and moist, well-drained soil. Needs wind protection. Slow to moderate growth rate. Height 35 feet. Spread 20 feet.

COMMENTS: Hardier than Manchurian Walnut. Zone 3. Look for hardy northern strains. Approved for use in boulevards away from power lines because of its height and sidewalks because of its nuts.

LOCATION: No known location in Townsend.





## Black Walnut

*Juglans nigra*

SHAPE: Attractive, open, wide-spreading, oval to round-headed deciduous tree.

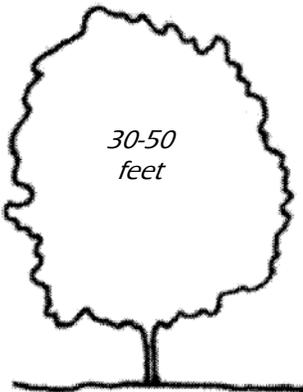
FOLIAGE: Handsome, dark green leaves divided into 15 to 23 leaflets. Turns yellow in autumn.

FEATURES: Good large shade tree, seldom grown in the west. Coarse branching habit. Widely grown for its large well-filled edible nuts. Hardy. Zone 3. Taprooted. Moderate growth rate. Height 30-50 feet. Spread 15-20 feet.

GROWING CONDITIONS: Prefers full sun and moist, well-drained soil. Somewhat drought tolerant. Needs wind protection. Roots may harm nearby plants.

COMMENTS: Long lived specimen tree. Deer resistant. Not approved in boulevards next to sidewalks because of the nuts. Not approved for use under power lines.

LOCATION: No confirmed public location.



## 'Spring Snow' Crabapple

*Malus species 'Spring Snow'*

SHAPE: Normally low-branching and spreading oval shaped hybrid crabapple.

FOLIAGE: Handsome bright green leaves.

FEATURES: Many prolific showy, very fragrant, white flowers in spring. No fruit. Hardy. Zone 4. Grows 18-25 feet tall and 10-15 feet wide.

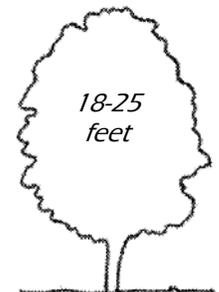
GROWING CONDITIONS: Prefers full sun and well-drained soil.

COMMENTS: 'Spring Snow' is a Canadian introduction. Approved for use in boulevards next to sidewalks and under power lines. Won't break sidewalks in boulevards like larger trees.

Fireblight resistant variety. Very uniform grower. Scab can be a problem in wet springs.

Other recommended varieties of crabapples with fruit can be used in boulevard locations under power lines if there is no sidewalk. See list of other recommended crabapples below in the next section on page 31.

LOCATIONS: A labeled specimen is located in front of the Broadwater County Courthouse on the west side of the sidewalk. Two other labeled specimens are located in front of the *Townsend Star*.



## Swedish Columnar Aspen

*Populus tremula* 'Erecta'



SHAPE: Dense, compact, narrow and columnar. A replacement for Lombardy Black Poplar which is not hardy in Townsend.

FOLIAGE: Bronze-red leaves becoming dark green when mature. Lobed oak-like green leaves turn yellow to apricot orange in fall.

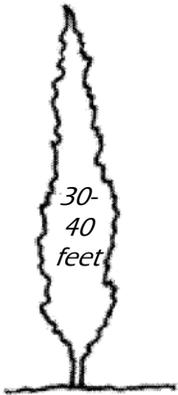
FEATURES: One of the nicest columnar trees hardy in Townsend and adapted for narrow locations.

Hardy. Zone 2. Rapid growth rate. Grows 30-40 feet tall and 3-5 feet wide. Seedless.

GROWING CONDITIONS: Grows in a variety of soils and moisture conditions. Prefers full sun and moist, well-drained soil. Tolerates dry soils.

COMMENTS: Good accent or screen tree. Not approved for use in boulevards under power lines.

LOCATIONS: Three Swedish Columnar Aspens are located at 513 South Elm along Elm Street.



## Amur Chokecherry or Cherry / Manchurian Cherry

*Prunus maackii*

SHAPE: Dense, spreading, round-headed.

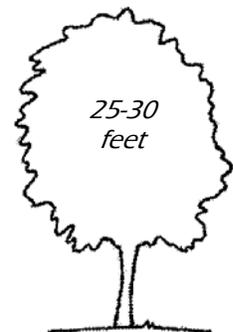
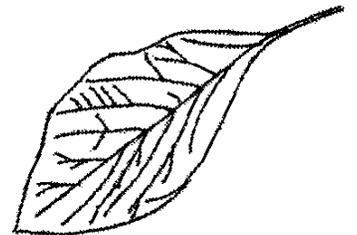
FOLIAGE: Dark green leaves turn yellow in autumn.

FEATURES: Attractive amber to reddish-brown peeling bark. Clusters of small white flowers in spring. Small astringent black fruit attracts birds. Hardy. Zone 2. Moderate to rapid growth rate. 25-30 feet tall.

GROWING CONDITIONS: Prefers full sun or partial shade and semi-moist, well-drained soil. Needs wind protection.

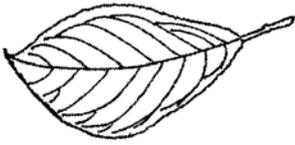
COMMENTS: Approved for use under all but lowest power lines. Won't break sidewalks like larger trees. Fruit droppings stain decks and sidewalks. A red-leaved variety was sold under the name of *P. maackii* var. *canadensis*.

LOCATIONS: No known location in Townsend. In Helena, in front of the Fish, Wildlife and Parks building on Sanders. A red-leaved variety is growing in the Great Northern Town Center.



# May Day Tree / May Day Chokecherry

*Prunus padus*



SHAPE: Open, spreading, round-headed, with low branches.

FOLIAGE: Dark green leaves turn yellow to bronze in autumn.

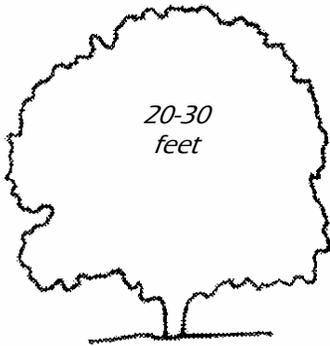
FEATURES: Outstanding, fragrant white flowers in May. Small inedible fruit that dries on tree if birds don't get them first. Doesn't sucker as much as the common chokecherry.

Hardy. Zone 3. Moderate growth rate. 20-30 feet tall.

GROWING CONDITIONS: Prefers sun and moist, well-drained soil. Tolerates some shade, wind and many soil conditions.

COMMENTS: Look for northern Europe and Asian strains. Also called European Bird Cherry. Fruit droppings stain decks and sidewalks. Approved for use under all power lines. Won't break sidewalks like larger trees.

LOCATIONS: No known locations in Townsend. Labeled specimen at Placer Center, north entrance; Last Chance Walking Mall; and Constitution Park in Helena.



# 'Sharon' May Day Tree / May Day Chokecherry

*Prunus padus* 'Sharon'

SHAPE: Open, spreading, round-headed, with low branches.

FOLIAGE: Dark green leaves in spring turn deep burgundy in summer and fall.

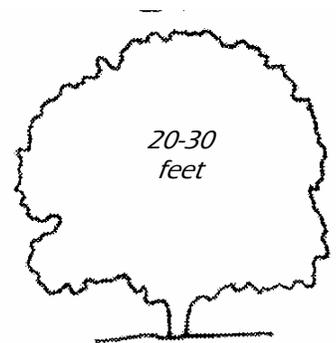
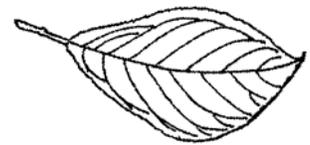
FEATURES: Outstanding, fragrant white flowers in early May. Purple fruits loved by birds.

Doesn't sucker as much as the common chokecherry. Hardy. Zone 3. Moderate growth rate. Height and spread 20 feet.

GROWING CONDITIONS: Prefers sun and moist, well drained soil. Tolerates some shade, wind and many soil conditions.

COMMENTS: Fruit droppings stain decks and sidewalks. Approved for use under all power lines. Won't break sidewalks like larger trees.

LOCATIONS: No known locations in Townsend. A red leaf variety is on the boulevard strip around the State Capitol building in Helena.





## 'Canada Red' Chokecherry / Schubert's Chokecherry

*Prunus virginiana* 'Canada Red'

SHAPE: Open, spreading, round to oval-headed.

FOLIAGE: Dark green leaves in spring turn purple or maroon when mature.

FEATURES: Fragrant white flowers in late April to early May. Very little fruit. Small edible fruit if birds don't get them first. Doesn't sucker as much as the common chokecherry. Very hardy. Zone 2. Moderate growth rate. Height 20-25 feet. Spread 15 feet.

GROWING CONDITIONS: Prefers sun and moist, well drained soil. Tolerates some shade, wind and many soil conditions.

COMMENTS: Fruit droppings can stain decks and sidewalks. Approved for use under power lines. Won't break sidewalks like larger trees.

LOCATIONS: In Courthouse landscape between old Courthouse building and new Detention Center building. In boulevard in front of Townsend Drug. There are several at the Fairgrounds.



## Prairie Gem Flowering Pear

*Pyrus ussuriensis* 'Mordak'

SHAPE: Dense, broadly pyramidal, oval to rounded habit. A budded selection that has a more predictable habit than *P. ussuriensis*. Stout grower with a plant canopy that is very dense with broad leaves and branches.

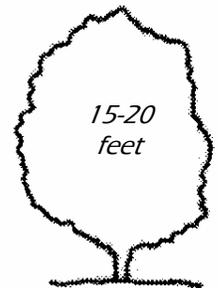
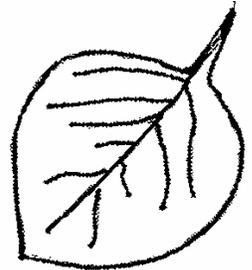
FOLIAGE: Broad, glossy thick, leathery, green leaves turn yellow to red in autumn.

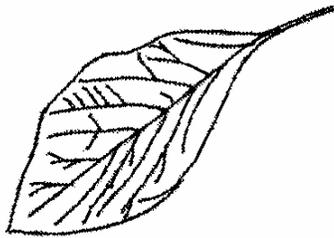
FEATURES: Attractive waxy, white, clustered flowers in early spring. Hardy hybrid pear without fruit. Zone 2-3. Moderate growth rate. Height 15-20 feet. Spread 15 feet.

GROWING CONDITIONS: Prefers full sun and moist, well-drained soil. Tolerates dry and poor soil.

COMMENTS: An excellent ornamental pear for cold climates. Needs iron supplement in Townsend soils. Approved for use under power lines. Won't break sidewalks like larger trees. Ideal tree for limited space areas.

LOCATION: A labeled specimen is located in front of the Elementary School and two specimens can be found in front of the Broadwater County Detention Center building in the south-east corner toward Broadway.





## Gambel Oak

*Quercus gambelii*

SHAPE: Small, spreading, shrubby oak native to dry, Central Rocky Mountain west.

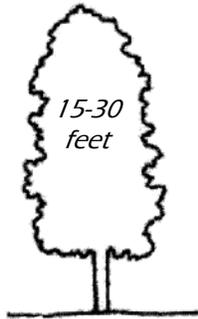
FOLIAGE: Green oak leaves turn yellow-orange to red in autumn.

FEATURES: Slow growing. Hardy. Zone 3. 15-30 feet tall and 12 feet wide.

GROWING CONDITIONS: Tolerates drought and alkaline soil.

COMMENTS: This little oak is worth a try in Townsend. Approved for use under power lines. Won't break sidewalks like larger trees. Deer resistant.

LOCATION: A small seedling was planted at 133 N Maple in 2005 on private property. No other known location in Townsend.



## Columnar Mountain Ash

*Sorbus aucuparia* 'Fastigata'

SHAPE: Upright, narrow, columnar form.

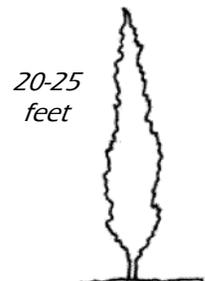
FOLIAGE: Dull green leaves divided into 9 to 15 leaflets with grayish undersides. Turns orange to red in autumn.

FEATURES: Stout branches. Reddish bark. Clusters of tiny white flowers in spring. Orange to red berries attract fall migrating birds. Very hardy. Zone 2. Upright semi-dwarf selected in Canada. Height 20-25 feet. Spread 4-5 feet.

GROWING CONDITIONS: Best if planted in shade of building or another tree on north or east side. Well-drained soil with wind protection. Sensitive to urban pollution, compacted soil, and subject to iron deficiency in alkaline soil.

COMMENTS: Mountain Ashes drop many berries. Not recommended in or near sidewalks because of the berries. This would be the best Mountain Ash to plant in boulevards because of the narrow form that would limit berries on sidewalks or streets.

LOCATIONS: No known location in Townsend.





## Japanese Tree Lilac

*Syringa reticulata* 'Ivory Silk'

SHAPE: Dense, broad, spreading, oval to vase shaped. Single stemmed variety.

FOLIAGE: Broad, bright green leaves. Yellow-green leaves in fall.

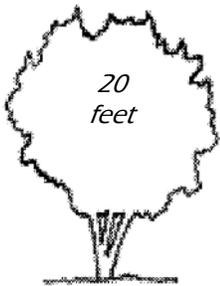
FEATURES: Spectacular clusters of large fragrant, creamy white flowers in panicles. Flowers in late June when few plants are blooming. Attractive reddish brown bark. Moderate growth rate. Hardy. Zone 3. Grows to 20 feet tall and 15 feet wide. Approved for use under power lines.

GROWING CONDITIONS: Prefers full sun and moist, well-drained soil. Needs wind protection.

COMMENTS: Look for hardiest strains available. This selection is better than original *S. reticulata*.

Deer resistant. Approved for use under all power lines. Won't break sidewalks like larger trees.

LOCATION: Two Japanese Tree Lilacs are planted in front of the Detention Center on both sides of the main entrance sidewalk. Two trees are planted at the Elementary School south of the Community Room facing Second Street.



## American Sentry Linden

*Tilia americana* 'McKSentry'

SHAPE: Dense, pyramidal, and symmetrical.

FOLIAGE: Broad, medium green large leaves. Golden fall color.

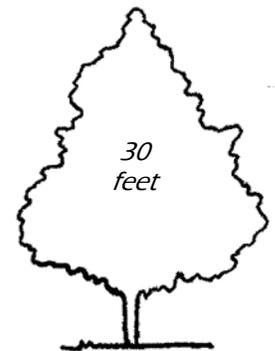
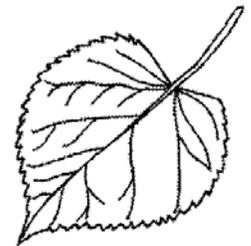
FEATURES: Attractive pyramidal form. Good street and shade tree.

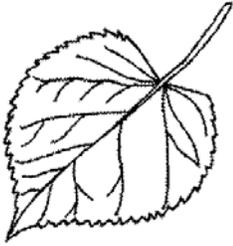
Drooping clusters of fragrant yellowish flowers. Hardy. Zone 3. Moderate growth rate. Height 30 feet. Spread 15-20 feet. Can be hurt in test winters.

GROWING CONDITIONS: Prefers full sun or partial shade and moist, well-drained soil. Needs wind protection.

COMMENTS: A new native American Basswood. Not recommended under power lines. If planted in a boulevard next to a sidewalk or next to a driveway, use deep root protectors to prevent lifting of the cement or asphalt.

LOCATION: No known location in Townsend.





## 'Redmond' American Linden / Basswood

*Tilia americana* 'Redmond'

SHAPE: Dense, very uniform, pyramidal to upright habit.

FOLIAGE: Broad, medium to dark green, large leaves. Bright gold fall color.

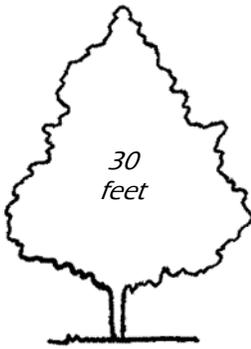
FEATURES: Attractive pyramidal form. Good street and shade tree.

Drooping clusters of fragrant yellowish flowers. One of the hardiest selections for our climate. Zone 3. Can be hurt in test winters. Moderate growth rate. Height 30-35 feet. Spread 25-30 feet.

GROWING CONDITIONS: Prefers full sun or partial shade and moist, well-drained soil. Needs wind protection.

COMMENTS: Popular tree. Look for hardiest northern strains. The new 'Boulevard' and 'Lincoln' selections are worth a try in Townsend. Not recommended under power lines. If planted in a boulevard next to a sidewalk or next to a driveway, use deep root protectors to prevent lifting of the cement or asphalt.

LOCATIONS: An unknown variety of American Linden has been planted at 400 S. Spruce on the boulevard.



## 'Manitoba' American Linden

*Tilia americana* 'Manitoba'

SHAPE: Dense, very uniform, pyramidal to upright habit.

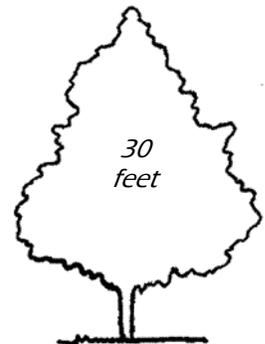
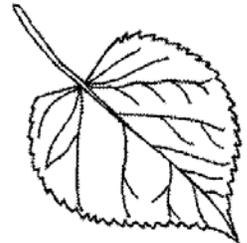
FOLIAGE: Broad, medium to dark green, large leaves. Bright gold fall color.

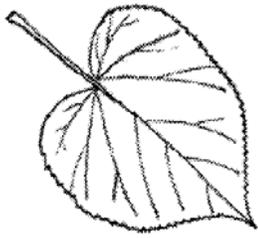
FEATURES: Attractive pyramidal form. Good street and shade tree.

Drooping clusters of fragrant yellowish flowers. One of the hardiest selections for our climate. Zone 3. Can be hurt in test winters. Moderate growth rate. Height 30-35 feet. Spread 25-30 feet.

GROWING CONDITIONS: Prefers full sun or partial shade and moist, well-drained soil. Needs wind protection. Don't let the soil dry out.

LOCATION: No known location in Townsend.





## 'Greenspire' Littleleaf Linden

*Tilia cordata* 'Greenspire'

SHAPE: Dense, spreading, pyramidal to round-headed.

FOLIAGE: Broad, dark green large leaves. Bright gold fall color. Smaller leaves than 'Redmond'.

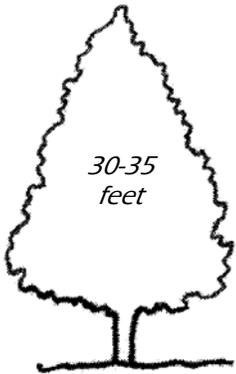
FEATURES: The standard in Lindens. Attractive pyramidal form. Very uniform branching. Good street and shade tree. Neat and tidy tree. Drooping clusters of fragrant pale yellow flowers that attract bees. Zone 4. Can be hurt in test winters. Moderate growth rate. Height 30-35 feet.

Spread 15-20 feet.

GROWING CONDITIONS: Prefers full sun or partial shade and moist, well-drained soil. Needs wind protection.

COMMENTS: Not recommended under power lines. If planted in a boulevard next to a sidewalk or next to a driveway, use deep root protectors to prevent lifting of the cement or asphalt. Ideally suited for confined locations and where uniformity is important.

LOCATIONS: No known location in Townsend.



## 'Dropmore' Linden

*Tilia x flavenscens* 'Dropmore'

SHAPE: Attractive form. Dense, broad, pyramidal.

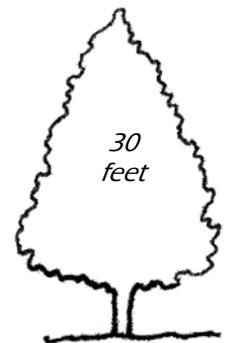
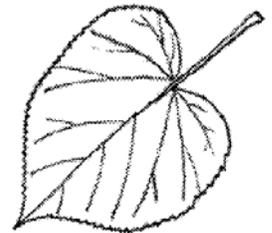
FOLIAGE: Dark green leaves, similar in shape to other lindens. Gold fall foliage.

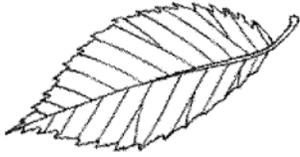
FEATURES: Showy fragrant cream-colored blooms in early summer. Resistant to leaf mites. Good street and shade tree. Zone 3. Moderate growth rate. Height 30 feet. Spread 15-20 feet.

GROWING CONDITIONS: Prefers partial shade and moist, well-drained soil. Needs wind protection.

COMMENTS: Hybrid of *T. americana* and *T. cordata*. Not recommended under power lines. If planted in a boulevard next to a sidewalk or next to a driveway, use deep root protectors to prevent lifting of the cement or asphalt.

LOCATION: No known location in Townsend.





## Discovery Elm

*Ulmus davidiana var. japonica*

SHAPE: Arching, vase-shaped canopy.

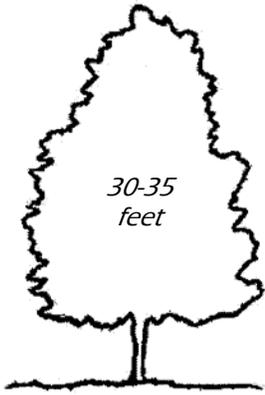
FOLIAGE: Clean looking through the entire season.

FEATURES: A very cold-hardy elm developed in Canada. Zone 3. Height 30-35' feet. Spread 20-25 feet.

GROWING CONDITIONS: Tolerant of adverse soil conditions. Drought tolerant.

COMMENTS: Highly resistant to Dutch Elm disease as well as Elm Leaf Beetle. Not recommended under power lines. If planted in a boulevard next to a sidewalk or next to a driveway, use deep root protectors to prevent lifting of the cement or asphalt.

LOCATION: No confirmed location in Townsend.



## 'Morton Glossy' Elm

*Ulmus glabra x Triumph cv. 'Morton Glossy'*

SHAPE: Upright oval shape.

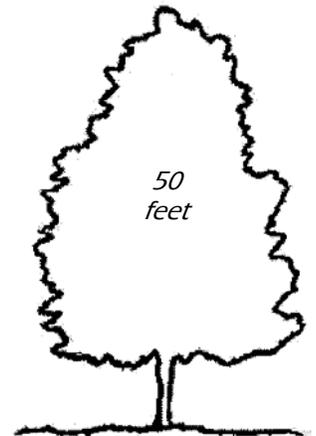
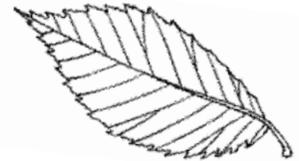
FOLIAGE: Glossy dark foliage turning yellow to orange in fall.

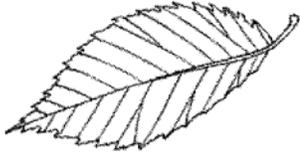
FEATURES: Very tolerant to Dutch Elm disease and Phloem Necrosis. Zone 4. Height 50 feet. Spread 40 feet. Deer resistant.

GROWING CONDITIONS: Tolerant of adverse soil conditions. Drought tolerant.

COMMENTS: Not recommended under power lines. If planted in a boulevard next to a sidewalk or next to a driveway, use deep root protectors to prevent lifting of the cement or asphalt.

LOCATION: No confirmed location in Townsend.





## 'New Horizon' Elm

*Ulmus japonica x pumila* 'New Horizon'

SHAPE: Upright, oval growth habit with compact appearance.

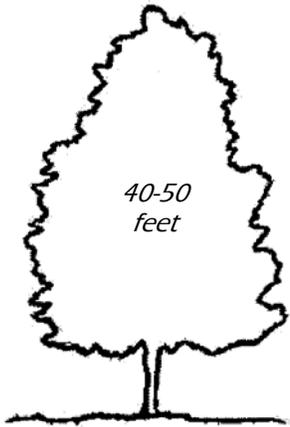
FOLIAGE: Densely leaved. Coarse textured dark green leaves similar to American Elms. Rusty red fall foliage.

FEATURES: Resistant to Dutch Elm disease. Hardy. Zone 3. Height 40-50 feet. Spread 25 feet. Deer resistant.

GROWING CONDITIONS: Tolerates adverse soil and climatic conditions.

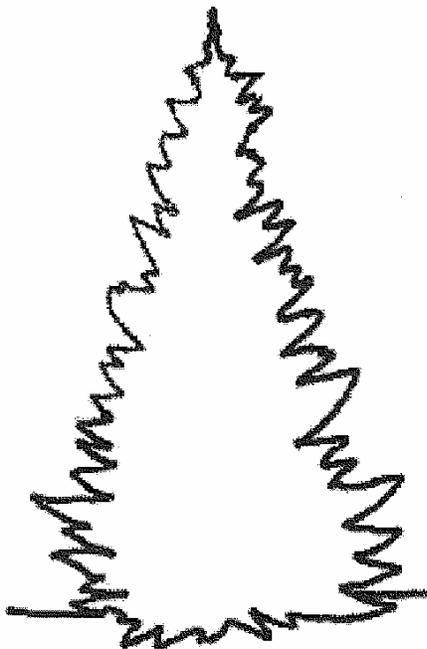
COMMENTS: Good shade tree. Not recommended under power lines. If planted in a boulevard next to a sidewalk or next to a driveway, use deep root protectors to prevent lifting of the cement or asphalt.

LOCATION: No confirmed location in Townsend.



## Conifers / Evergreens Trees

None recommended in boulevards



# Trees Recommended for General Use in Townsend, But Not for Boulevard Trees (Broadleaf)



## Rocky Mountain Maple

*Acer glabrum*

SHAPE: Dense, low branching, upright spreading.

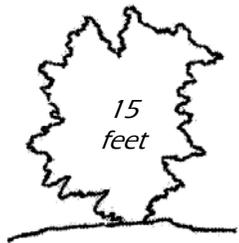
FOLIAGE: 3- to 5-lobed green leaves on red petioles, which turn bright yellow to gold in autumn.

FEATURES: Native maple with reddish twigs and gray older bark. Attractive yellowish-green flowers and reddish samaras (seed pods). Hardy. Zone 4. Moderate growth rate. 15 feet tall.

GROWING CONDITIONS: Prefers shade and moist, well-drained soil. Needs wind protection. Plant on north or east side of home. Not recommended for full sun locations.

COMMENTS: Available in single and multiple stem forms. Buy hardy northern strains from east of the Continental Divide.

LOCATIONS: On private property at 133 N. Maple on northwest corner of house in foundation planting. On the slopes of Deep Creek Canyon in the Helena National Forest.



## Sugar Maple

*Acer saccharum*

SHAPE: Dense, spreading, oval to round-headed. Large stately tree.

FOLIAGE: Thick five-lobed, bright green leaves. Autumn color varies from yellow to orange.

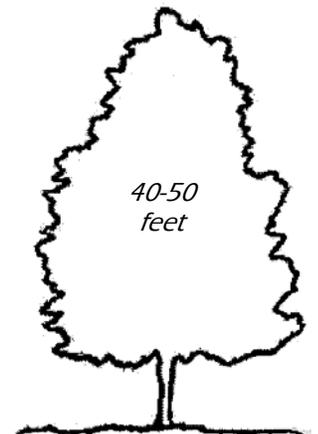
FEATURES: Tolerates heat. Hardy. Zone 3. 40-50 feet tall.

GROWING CONDITIONS: Prefers moist, well-drained soil. Subject to iron deficiency in highly alkaline soil. Needs some wind protection.

COMMENTS: Uncommon in Townsend, but worth trying in a sheltered location.

This large tree is not recommended for a boulevard tree under power lines and in unprotected locations. The best variety is probably 'Green Mountain'.

LOCATION: A Sugar Maple has survived in Lakeview Manor subdivision at 1 Rodgers Court on private property, south and west of the house.



# Horsechestnut

*Aesculus hippocastanum*



SHAPE: Dense, upright-oval to rounded.

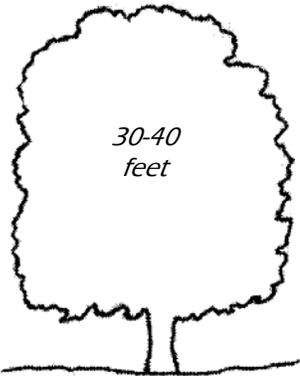
FOLIAGE: Dull, dark green leaves with lighter undersides, divided into 5 or 7 leaflets. Turns yellow in autumn.

FEATURES: Spectacular large clusters of white flowers in June. Large seeds are poisonous. Marginal hardiness. Needs protected site. Moderate growth rate. 30-40 feet tall.

GROWING CONDITIONS: Prefers full sun and moist, well-drained soil and will tolerate poor soils.

COMMENTS: Seeds were used in its native Europe to make a potion that relieved coughs in horses and cattle; also used in modern alternative medicine.

LOCATION: A large specimen has survived on private property at 210 North Walnut on the corner of the property between Walnut and Third Street. A new cross between *A. hippocastanum* and *A. carnea* called 'Ft. McNair' Red Horsechestnut is available. See trees recommended for boulevards for more information.



# Mountain Alder

*Alnus tenuifolia*

SHAPE: Open, low-branching too upright, oval to broadly pyramidal multi-stem tree or large shrub.

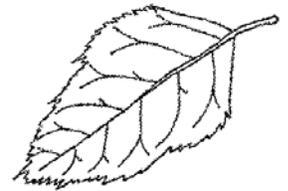
FOLIAGE: Oval, dull dark green leaves with yellowish-green undersides.

FEATURES: Flowers are catkins. Cone-like fruit capsules remain through the winter. Tends to form thickets along creek bottoms. Uncommon as a landscape plant. Moderate to rapid growth rate. Zone 2. Height 15-20 feet.

GROWING CONDITIONS: Prefers full sun or partial shade and moist or wet soil. Could be planted on the north side of homes in shaded locations.

COMMENTS: Native small tree to Montana. Fixes its own nitrogen and roots by layering whenever branches touch the ground.

LOCATION: No known location in Townsend. Deep Creek Canyon in the Helena National Forest.



Native



# Chinese Paper Birch

*Betula alba-sinensis*

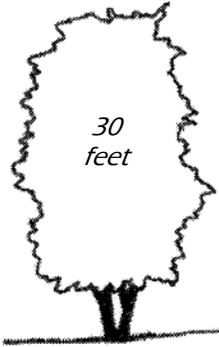
SHAPE: Dense, oval to broadly pyramidal.

FOLIAGE: Dark green leaves with light green undersides. Turns bright yellow in autumn.

FEATURES: Attractive orangish-brown, peeling bark. Moderate to rapid growth. 30 feet tall.

GROWING CONDITIONS: Prefers full sun and cool, moist, well-drained soil. Needs wind protection. May do well in protected site on north side of homes.

LOCATION: No confirmed location in Townsend.



# Paper Birch

*Betula papyrifera*

SHAPE: Open, oval- to round-headed.

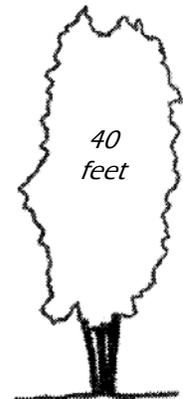
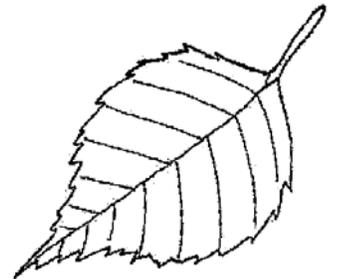
FOLIAGE: Dark green leaves turn yellow in autumn.

FEATURES: The bark becomes chalky white by the third or fourth year. Moderate to rapid growth. Zone 2. Height 40 feet. Spread 15-20 feet. Comes in single and multiple stem forms.

GROWING CONDITIONS: Prefers full sun or partial shade and moist, well-drained soil. Does well in varied soil types. Needs wind protection. Native to north central and western Montana. Prefers wet location. One of the hardiest and longest lived birches.

COMMENTS: Ask your nursery for hardy northern strains. Paper Birches in Townsend have almost all had the top die back in bad winters. Plant on the north and east side of the house in a protected spot. Water often and deep. There is a new variety of Paper Birch called 'Renci' Renaissance Reflection Paper Birch that has superior bronze birch borer resistance. It is a Zone 3 plant and worth a try in Townsend.

LOCATION: There are two Paper Birches at 314 North Walnut in a protected location on the north side of the house facing Fourth Street.



## River Birch

*Betula nigra*



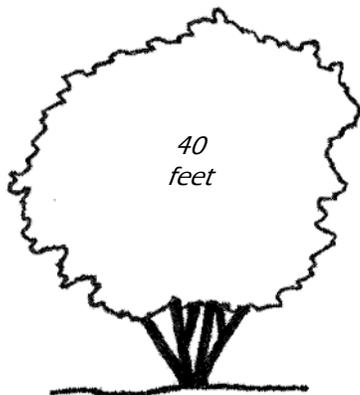
SHAPE: Dense, pyramidal to oval-headed. Often multi-stemmed.

FOLIAGE: Green leaves with silvery undersides turn yellow in autumn.

FEATURES: Ornamental white bark that peels and darkens with age. Rapid growth rate. Height 40 feet.

GROWING CONDITIONS: Prefers full sun and moist, well-drained soil. Needs a protected site. Resistant to bronze birch borer. May survive in Townsend.

LOCATIONS: A River Birch is planted in front of 610 Broadway.



## Water Birch or Western River Birch/ Fountain Birch

*Betula occidentalis* / *Betula fontinalis*

SHAPE: Dense, spreading, vase shaped. Multiple trunks.

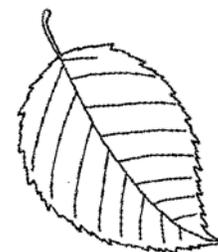
FOLIAGE: Rounded, green leaves turn yellow to orange in autumn.

FEATURES: Shiny maroon or cherry-brown bark. Moderate growth rate. Zone 3. 20-30 feet tall.

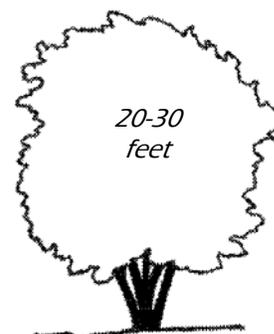
GROWING CONDITIONS: Prefers full sun or partial shade and moist, well-drained soil. Also tolerates a little drought.

COMMENTS: Very hardy. Native tree. Most tolerant and reliable of all birches. Select hardy northern strains grown east of the Continental Divide.

LOCATION: Corner of 215 North Walnut and Third Street in front lawn.



Native





## Cutleaf Weeping Birch/ European White Birch

*Betula pendula* 'Dalecarlica'

SHAPE: Open, upright-branching, large graceful tree with drooping branchlets, pyramidal to oval-headed.

FOLIAGE: Delicate green leaves turn bright yellow in autumn.

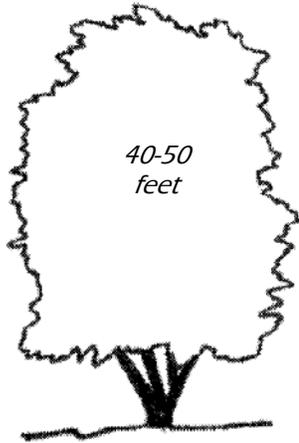
FEATURES: Attractive papery white bark at an early age. Moderate to rapid growth rate. Hardy. Zone 2. Height 40-50 feet.

GROWING CONDITIONS: Prefers full sun or part shade and moist, well-drained soil. Needs wind protection.

COMMENTS: One of the most attractive old trees in Townsend, especially in the winter. A large tree noted for its beautiful white bark and weeping habit. Short-lived like other birches. Prone to dieback in test winters and also from drought. Water often and deep. Not recommended as a boulevard tree. Sheds a lot of branches.

NOTE: Another variety called 'Youngii' or Young's Weeping Birch is a unique ultra-weeping plant that is suitable as a specimen tree. Zone 2. Height 15-20 feet. This tree would not be suitable as a boulevard tree because of the weeping habit.

LOCATIONS: Traditional old Cutleaf Weeping Birches can be seen at 133 North Maple at the corner of Maple and Second Street. Also, at 201 North Maple across Second Street from the first listed location.



## Manchurian Birch

*Betula platyphylla*

SHAPE: Open, narrow, pyramidal.

FOLIAGE: Broad, green leaves. Turns yellow in autumn.

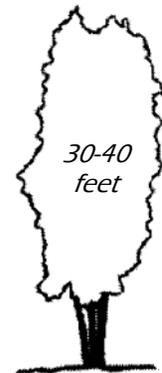
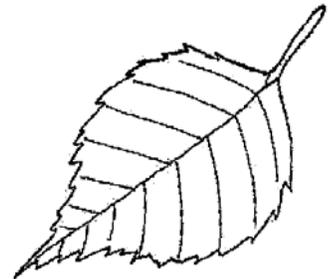
FEATURES: Ornamental white bark. Quite hardy. Zone 3. Moderate to rapid growth rate. 30-40 feet tall.

GROWING CONDITIONS: Prefers full sun or part shade and moist, well-drained soil.

Needs wind protection. Resistant to birch borer. Subject to iron deficiency in alkaline soil.

COMMENTS: One of the best White Birches. A new variety called 'Fargo', Dakota Pinnacle Asian White Birch, is an improved selection. 'Fargo' has a columnar habit and yellow-white bark at an early age that distinguishes this selection from Paper Birch.

LOCATION: No known location in Townsend.





## Common Hackberry

*Celtis occidentalis*

SHAPE: Dense, ascending branches, drooping branchlets, round-headed.

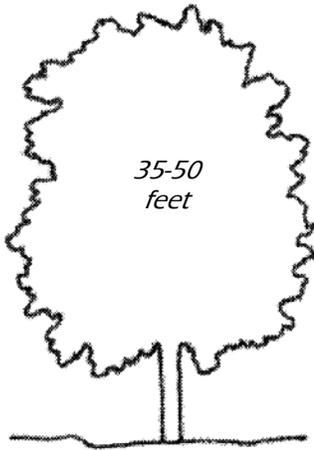
FOLIAGE: Bright green leaves turn yellow in autumn.

FEATURES: Birds relish the seeds. Hardy. Zone 3. Deep-rooted. Moderate to rapid growth once established. 35-50 feet tall.

GROWING CONDITIONS: Prefers full sun or part shade and moist, well-drained soil. Tolerates adverse conditions including poor soils and drought. Needs wind protection. Tolerant of urban pollution.

COMMENTS: Sometimes called a "Nettle Tree". Look for hardy northern strains, preferably from Manitoba or North Dakota.

LOCATION: No known location in Townsend.



## Downy Hawthorn

*Crataegus mollis*

SHAPE: Dense, wide-spreading, low-branching, round-headed.

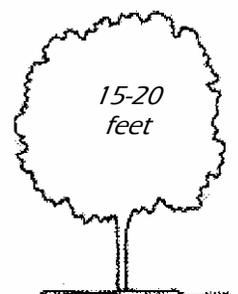
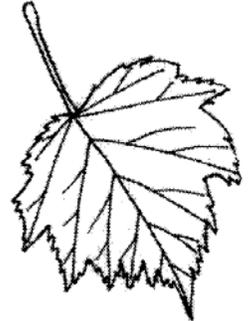
FOLIAGE: Glossy, dark green leaves turn yellow to red in the autumn.

FEATURES: Large white flowers in mid- to late spring. Red berries in fall and winter. Sharp thorns. Slow to moderate growth. 15-20 feet tall.

GROWING CONDITIONS: Prefers full sun and semi-moist or dry soil. Drought resistant.

COMMENTS: Not recommended for boulevards because of the thorns and fruit.

LOCATIONS: Can be seen in Helena at the State Capitol, east lawn near the General Services Building.





## Toba Hawthorn

*Crataegus x mordenensis*

SHAPE: Dense, wide-spreading, low-branching, round-headed.

FOLIAGE: Glossy, light green leaves turn yellow to red in the autumn.

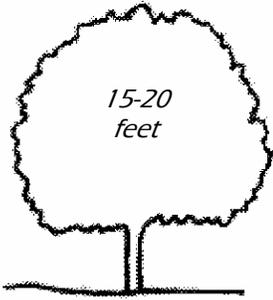
FEATURES: Double white flowers turning pink in mid- to late spring.

Sets very few red berries in fall and winter. Sharp thorns. Hardy. Zone 3. Slow to moderate growth rate. A nice small 15 -20 foot tall tree that is well suited for small areas. Attractive orange-yellow bark that develops character with age.

GROWING CONDITIONS: Prefers full sun and semi-moist or dry soil. Drought resistant.

COMMENTS: Not recommended for boulevards because of the thorns. Another hawthorn called 'Snowbird' is a Canadian selection that is hardier than Toba Hawthorn. It has white flowers, glossy leaves, and an upright spreading habit. The habit is more coarse than Toba Hawthorn.

LOCATIONS: One has survived in Lakeview Manor at 1 Rodgers Court on the east side of the garage. Can be seen in Helena at the State Capitol, east lawn near the General Services Building.



## River Hawthorn

*Crataegus rivularis*

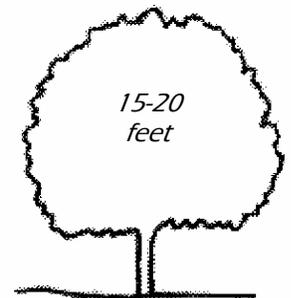
SHAPE: Dense, low-branching, oval- to round-headed.

FOLIAGE: Leaves are shiny, dark green on top, paler underneath, sawtoothed.

FEATURES: Clusters of white flowers in mid- to late spring. Crimson to blackish fruit. Sharp thorns. One of the best hawthorns for the Helena / Townsend area. Slow to moderate growth rate. 15-20 feet tall.

GROWING CONDITIONS: Prefers full sun and semi-moist, well-drained soil. Tolerates drought.

LOCATION: No known locations in Townsend but can be seen in Helena at the State Capitol, east lawn near the General Services Building.





## Manchurian Walnut

*Juglans mandshurica*

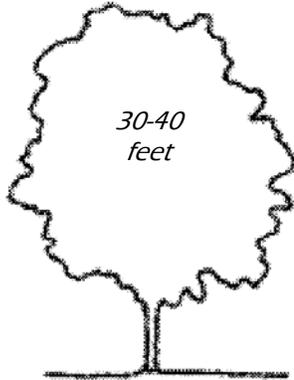
SHAPE: Broadly upright.

FOLIAGE: Large green leaves. Turns yellow in early autumn.

FEATURES: Edible nuts. Moderate growth rate. 30-40 feet tall.

GROWING CONDITIONS: Prefers full sun. Mature tree tolerates some drought. Can be hurt in test winters. Needs wind protection.

LOCATION: No confirmed public location.



## Other Crabapples

*Malus species*

SHAPE: Normally low-branching and spreading oval-shaped hybrid crabapples. Grow 18-20 feet tall and 10-15 feet wide.

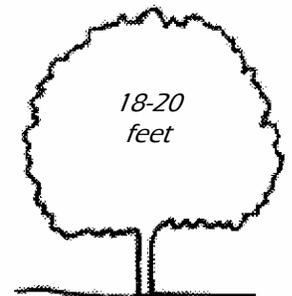
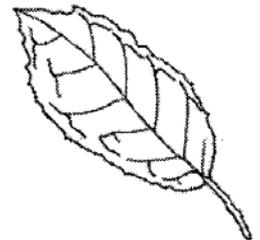
FOLIAGE: Handsome bright green, red, or purple leaves.

FEATURES: Many prolific showy, very fragrant, white, red, or pink flowers in spring.

GROWING CONDITIONS: *Malus* species prefers full sun and well-drained soils.

COMMENTS: Only use varieties with fruit away from boulevards with sidewalks. Hardiness and resistance to fireblight varies. Always buy fireblight-resistant varieties. Varieties and cultivars of *Malus* are too numerous to list. 'Royalty' and 'Thunderchild' are two of the purple leaved varieties commonly seen in Townsend. Some other varieties recommended include: 'Adams', 'Dolgo', 'Dolgo' Espalier, 'Prairie Fire', 'Radiant', and 'Royal Beauty'. Ask your nursery for fully hardy, disease resistant specimens. Many provide winter bird food. Some varieties produce crabapples that can be canned.

LOCATIONS: 'Royalty' Crabapples are planted south and east of Bob's Thriftway in the planters. A 'Thunderchild' Crabapple is planted in front of 133 N. Maple between the Cutleaf Weeping Birch and the Red Maple.





## Amur Cork Tree

*Phellodendron amurense*

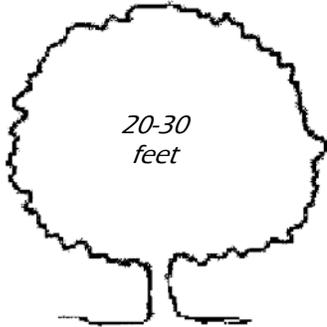
SHAPE: Open, wide-spreading, low-branching, round-headed.

FOLIAGE: Glossy, dark green leaves divided into 5 to 13 leaflets. Turns yellow in autumn.

FEATURES: Short trunk with attractive light corky bark. Clusters of yellowish-green flowers. Black, inedible berries favored by birds. Good tree for a small growing site. Slow to moderate growth. 20-30 feet tall.

GROWING CONDITIONS: Prefers full sun and well-drained soil. Tolerates drought and alkaline soil. Needs wind protection. Not recommended for boulevards because of the berries.

LOCATION: No known location in Townsend.



## Tower Aspen

*Populus x canescens* 'Tower'

SHAPE: Columnar.

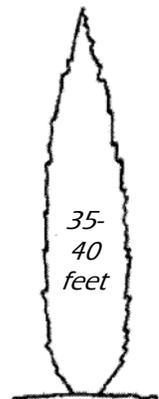
FOLIAGE: Oval, green leaves with silvery undersides. Turns yellow in autumn.

FEATURES: Some root suckers. Rapid growth. 35-40 feet tall.

GROWING CONDITIONS: Prefers partial sun and moist, well drained soil. Tolerates dry and alkaline soil.

COMMENTS: Cross between Swedish Columnar Aspen and European White Poplar.

LOCATION: No known location in Townsend.





# Quaking Aspen

*Populus tremuloides*

SHAPE: Open, narrow, round-headed.

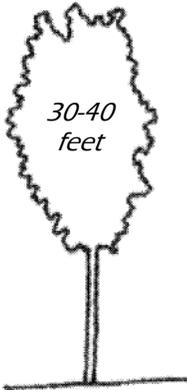
FOLIAGE: Lime-green leaves that tremble in the slightest breeze. Turns bright yellow, sometimes red-dish-orange in autumn.

FEATURES: Attractive greenish-gray to silver bark. Most appealing planted in groups in a naturalized setting. Spreads by underground stems in good location. Rapid growth. Short-lived. Hardy. Zone 2-3. 30-40 feet tall.

GROWING CONDITIONS: Prefers full sun or partial shade and moist or semi-moist, well-drained soil. Tolerates heavy, rocky, and alkaline soil.

COMMENTS: Look for hardy northern strains from east of the Continental Divide and prairies of Canada. The varieties from the Pacific Northwest grow too fast and tall. Native tree.

LOCATIONS: An aspen grove has been planted in front of the west entrance to the Broadwater County Courthouse close to Broadway.



# Highland Poplar

*Populus species 'Highland'*

SHAPE: Shaped like Narrowleaf Cottonwood but smaller in stature.

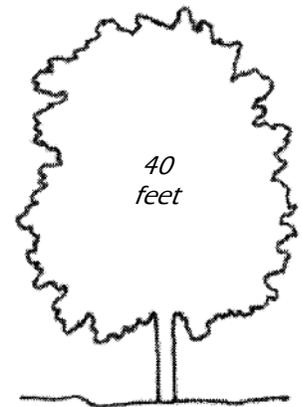
FOLIAGE: Narrow, linear green leaves turning yellow in fall.

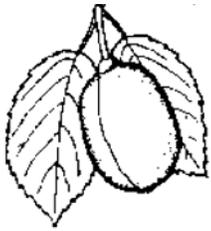
FEATURES: Light colored bark. This hybrid poplar is smaller than other poplars which makes it useful in residential plantings. Disease resistant. Hardy. Zone 3. Height 40 feet. Spread 20 feet.

GROWING CONDITIONS: Prefers full sun or partial shade and moist or semi-moist, well-drained soil.

COMMENTS: Introduction from Greeley, CO. Much smaller than the popular 'Siouxland' Poplar. Not as susceptible to Cytospora Canker as other Cottonwoods and Poplars.

LOCATIONS: No known locations in Townsend.





## Manchurian Apricot

*Prunus armeniaca* var. *mandshurica*

SHAPE: Dense, spreading, oval- to round-headed.

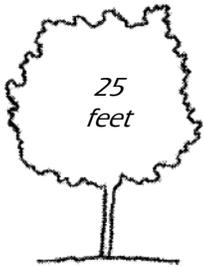
FOLIAGE: Round, serrated, glossy, dark green leaves turn red, orange and yellow in autumn.

FEATURES: Attractive pink flowers in spring. Fruit varies in size and quality but is generally good for canning. Moderate to rapid growth. 25 feet tall.

GROWING CONDITIONS: Prefers full sun and moist or semi-moist, well-drained soil, but can tolerate some drought. Needs wind protection.

COMMENTS: Look for hardy northern strains.

LOCATION: A Manchurian Apricot has survived at 132 N. Maple in the lawn east of the carport.



## Pie Cherry

*Prunus cerasus*

SHAPE: Open, spreading, oval to round-headed.

FOLIAGE: Dull green leaves, toothed, with downy veins.

FEATURES: Attractive ornamental tree with purplish bark. Clusters of white flowers in the spring.

Tart, edible fruit is perfect for pies. Self pollinating. Moderate to rapid growth. 10-15 feet tall.

GROWING CONDITIONS: Prefers full sun and moist, well-drained soil. Requires frequent watering. Tolerates many soil conditions. Needs wind protection.

COMMENTS: Cherries tend to be wormy. Ask your nursery for advice.

LOCATION: No confirmed public location.





# Black Cherry

*Prunus serotina*

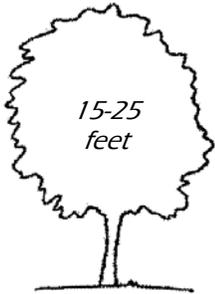
SHAPE: Open, spreading, oval-headed.

FOLIAGE: Glossy dark green leaves with light green undersides. Turns yellow to red in autumn.

FEATURES: Fragrant white flower spikes. Red fruit turns black in autumn. Often used for jelly or wine making. Moderate growth rate. 15-25 feet tall.

GROWING CONDITIONS: Prefers full sun and moist, well-drained soil. Tolerates dry and gravelly soil. Needs wind protection.

LOCATION: No known location in Townsend.



# Chokecherry

*Prunus virginiana*

SHAPE: Spreading, multi-trunked, oval to round headed.

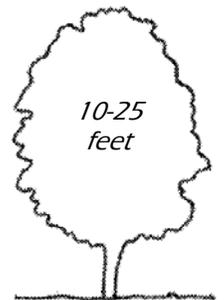
FOLIAGE: Dark green leaves with grayish-green undersides. Attractive autumn foliage. Red leaf cultivars are available (See 'Canada Red' Chokecherry on page 17).

FEATURES: Slender clusters of tiny white flowers in May. Select grafted varieties without suckering roots. Small astringent reddish-black fruit in summer. Commonly used in jelly or wine making. Hardy. Zone 2. Moderate to rapid growth. 10-25 feet tall.

COMMENTS: Fruit droppings stain decks and sidewalks.

GROWING CONDITIONS: Prefers full sun and semi-moist, well-drained soil. Tolerant of drought.

LOCATION: On east side of the Broadwater County Museum south of the sign.





## Korean Sun Flowering Pear

*Pyrus faurei* cv. 'Westwood'

SHAPE: Rounded habit.

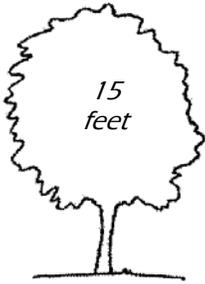
FOLIAGE: Fine-textured glossy green foliage that turns red in the fall.

FEATURES: Blooms in the spring with single white flowers. Height and spread 15 feet.

GROWING CONDITIONS: Relatively drought tolerant. Favors acid soils.

COMMENTS: Needs iron supplement in Townsend soils for leaves to turn red in fall. Makes a good specimen tree.

LOCATION: No known location in Townsend.



## Ussurian Pear

*Pyrus ussuriensis*

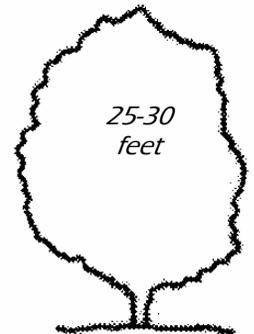
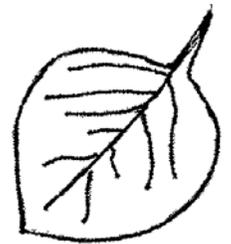
SHAPE: Dense, broadly-pyramidal to oval.

FOLIAGE: Glossy green leaves turn bright red in autumn.

FEATURES: Attractive white, clustered flowers. Small usually inedible fruit drops and creates a mess. Sharp spines. Hardest pear. Rapid growth rate. 25-30 feet tall.

GROWING CONDITIONS: Prefers full sun and moist, well-drained soil. Tolerates dry and poor soil.

LOCATION: Labeled specimen near kiosk on the north side of the old Livestock Building, Last Chance Walking Mall.





## Swamp White Oak

*Quercus bicolor*

SHAPE: Rounded open tree.

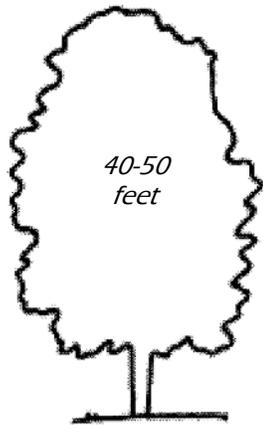
FOLIAGE: Lustrous, thick dark green leaves with wavy edges. Yellow to rusty-red fall color.

FEATURES: Hardy, strong, disease resistant, drought resistant and long-lived. Zone 4. Moderate growth. 40-50 feet tall and 30 feet wide. Deer resistant.

GROWING CONDITIONS: Plant in partial shade to full sun. Likes wet soils but will tolerate drought. Prefers acid soil. Needs iron supplement in Townsend soils.

COMMENTS: Vigorous, transplants readily. Exfoliating bark at a young age adds additional interest.

LOCATION: No known location in Townsend.



## Bur Oak

*Quercus macrocarpa*

SHAPE: Open, broad, round-headed to pyramidal.

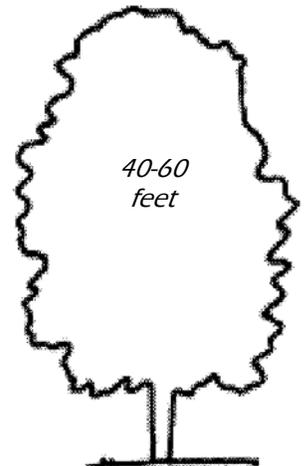
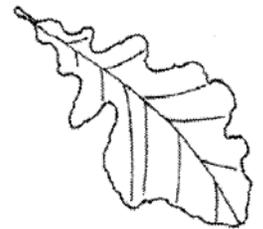
FOLIAGE: Lobed, lustrous to glossy dark green leaves with whitish undersides. Turns dull yellow to gold in autumn.

FEATURES: Good shade tree. Zone 3. Hardest of the oaks. Large acorns with mossy sheaths that can be messy to mow. Slow to moderate growth. Slower growing than other oaks. 40-60 feet tall and 30 feet wide. Long-lived. Native to lower Yellowstone and Missouri River drainages in woody draws. Drought tolerant. Deer resistant. Corky bark and branches add interest year round.

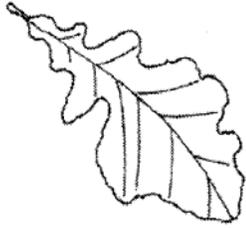
GROWING CONDITIONS: Prefers full sun and moist, well-drained soil. Tolerates urban pollution and dry, clay soil. Favors limestone soils, but is tolerant of wide range of soils.

COMMENTS: This is a stately tree that should be used in large spaces. Not recommended under power lines. This tree should not be planted next to sidewalks as it drops acorns in fall. If planted in a boulevard next to a sidewalk or next to a driveway, use deep root protectors to prevent lifting of the cement or asphalt. There is one Pin Oak (*Quercus palustris*) surviving at 133 N. Maple but it is not recommended for the Townsend area. Some people have tried Northern Red Oak (*Quercus rubra*) but it is marginally hardy in this area and needs acid soils. It is more adapted west of the Continental Divide.

LOCATIONS: Three Bur Oaks are planted south of the Medical Clinic on Broadway.



Native



# Mongolian Oak

*Quercus mongolica*

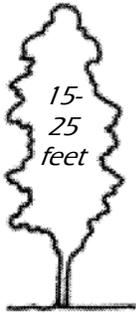
SHAPE: Open, oval-headed.

FOLIAGE: Lobed, glossy green leaves similar to Bur Oak. Turns red in autumn, then brown and remains through winter.

FEATURES: Nice appearance. Moderate growth. 15-25 feet tall.

GROWING CONDITIONS: Prefers full sun and moist, well-drained soil. Needs wind protection.

LOCATION: No known location in Townsend. State Capitol, east side near Sanders Street, directly opposite Mitchell Building west entrance.



# Idaho Locust

*Robinia x ambigua 'Idahoensis'*

SHAPE: Dense, spreading, oval-headed.

FOLIAGE: Dark green leaves divided into 11 to 23 leaflets.

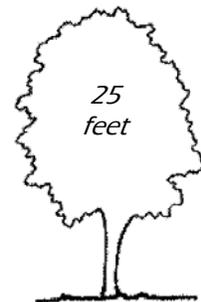
FEATURES: Showy long clusters of fragrant rose-pink flowers. Invasive, suckering roots.

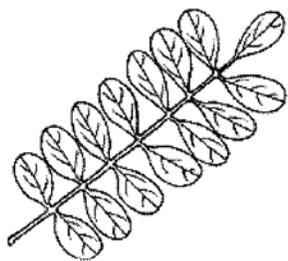
Hybrid of *R. pseudoacacia* and *R. viscosa*. Marginal hardiness. May be hurt in test winters. Moderate growth rate. 25 feet tall.

GROWING CONDITIONS: Prefers full sun and all but wet soil. Tolerates hot and dry conditions. Needs wind protection.

COMMENTS: Several other locusts have been tried and the ones that survive seem to be the ones that are not overwatered.

LOCATIONS: No known location in Townsend. O'Connell Hall, Carroll College, northwest lawn; and at Lawrence and Dearborn in Helena.





## Black Locust

*Robinia pseudoacacia*

SHAPE: Dense, spreading, oval-headed.

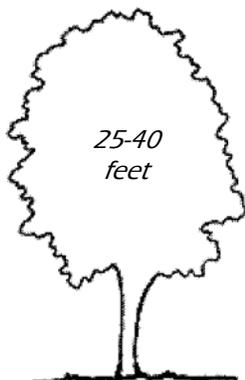
FOLIAGE: Dark green leaves divided into 7 to 19 leaflets.

FEATURES: Drooping clusters of fragrant white flowers. Invasive, suckering roots. Sharp thorns. Rapid growth rate. 25-40 feet tall.

GROWING CONDITIONS: Marginal hardiness. Can be hurt or killed in test winters. Prefers full sun and moist, well-drained soil. Tolerates salt, and hot and dry conditions. Needs wind protection.

COMMENTS: There is a new dwarf variety 'Lace Lady' called Twisted Baby Dwarf Black Locust. It is a unique, dwarf, multi-trunked shrub or small tree with interesting twisted zig-zag branches. The contorted form makes an excellent small specimen. Moderate growth to 8-10 feet tall and wide. Drought tolerant Zone 4 plant.

LOCATION: No known location in Townsend.



## Daphne Willow/ Violet Willow

*Salix daphnoides*

SHAPE: Dense, spreading, oval-headed.

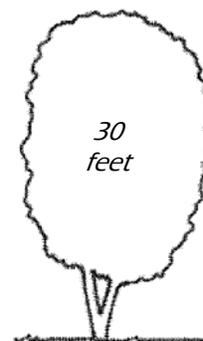
FOLIAGE: Elongated, glossy, dark green leaves slightly rounded at the tips.

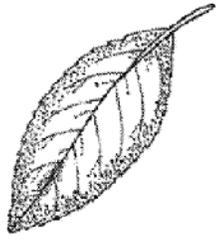
FEATURES: Attractive year round. Showy silver catkins on male trees in spring and bluish-white shoots in winter. Rapid growth. 30 feet tall.

GROWING CONDITIONS: Full sun and moist or wet soil. Tolerates many soil conditions. Needs wind protection.

COMMENTS: Sheds many branches.

LOCATION: No known location in Townsend.





## Pussy Willow

*Salix discolor*

SHAPE: Open, oval-headed, shrub-like.

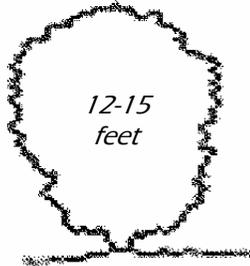
FOLIAGE: Oval, bright green leaves with bluish undersides.

FEATURES: Silky, gray catkins on male trees in early spring before the leaves, Moderate to rapid growth. 12-15 feet tall.

GROWING CONDITIONS: Prefers full sun and moist or wet soil. Tolerates many soil conditions.

COMMENTS: Cutting source should be from east of the Continental Divide.

LOCATIONS: No known location in Townsend. Several native species common along stream and river bottoms in Broadwater County. Also, on Archie Bray Foundation property on Country Club Drive in Helena.



## American Mountain Ash

*Sorbus americana*

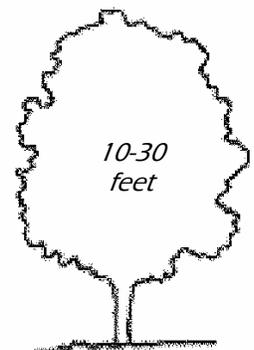
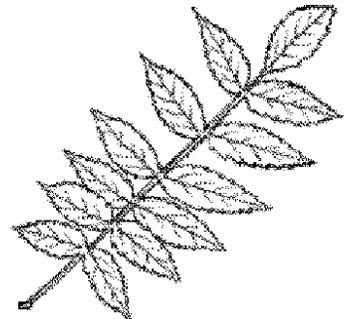
SHAPE: Open, narrow, round-headed.

FOLIAGE: Light green leaves divided into 11 to 17 leaflets. Turns orange in autumn.

FEATURES: Clusters of fragrant white flowers. Scarlet berries in clusters ripen in autumn and attract birds in winter. Short-lived. Slow growth. 10-30 feet tall.

GROWING CONDITIONS: Prefers full sun or partial shade and rich, moist, well-drained soil. Needs wind protection. Subject to iron deficiency in highly alkaline soil.

LOCATION: No known location in Townsend. In Helena, 5th Avenue at Roberts, south-east corner.





# European Mountain Ash

*Sorbus aucuparia*

SHAPE: Open, spreading, round-headed.

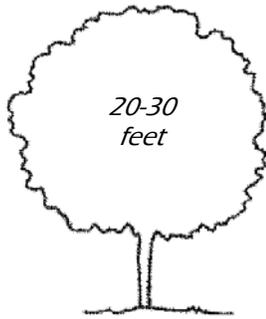
FOLIAGE: Dull green leaves divided into 9 to 15 leaflets with grayish undersides. Turns orange to red in autumn.

FEATURES: Good shade tree. Most common Mountain Ash in Townsend / Helena area. Reddish bark. Clusters of tiny white flowers in spring. Orange to red berries attract fall migrating birds. Robust growth rate. 20-30 feet tall.

GROWING CONDITIONS: Full sun, well-drained soil with wind protection. Sensitive to urban pollution and compacted soil. Subject to iron deficiency in alkaline soil. Best if grown on north or east side of home in winter shade. Not recommended in or near sidewalks because of the berries.

COMMENTS: Mountain Ash should not be over-watered or planted on sites with poor drainage. Mountain Ashes drop many berries.

LOCATIONS: In boulevard at 414 North Cedar Street.



# 'Rossica' / Russian Mountain Ash

*Sorbus aucuparia* 'Rossica'

SHAPE: Upright, round-headed.

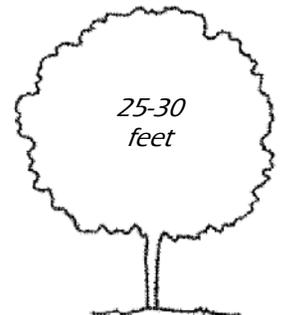
FOLIAGE: Dull green leaves divided into 9 to 15 leaflets with grayish undersides. Turn orange to red in autumn.

FEATURES: Reddish bark. Clusters of tiny white flowers in spring. Orange to red berries attract fall migrating birds. Hardy. Zone 2. Height and spread 25-30 feet.

GROWING CONDITIONS: Prefers partial shade. Well-drained soil with wind protection. Mountain Ash should not be over-watered or planted on sites with poor drainage. Sensitive to urban pollution, compacted soil and subject to iron deficiency in alkaline soil.

COMMENTS: Disease resistant. Mountain Ashes drop many berries. Not recommended in or near sidewalks because of the berries. Best if planted in shade of building or another tree on north or east side. Better than original *S. aucuparia*.

LOCATIONS: No known location in Townsend. Carroll College Commons, northwest lawn; outstanding specimen against north wall, State Capitol (to left of stairs).





# Showy Mountain Ash

*Sorbus decora*

SHAPE: Open, spreading, round-headed.

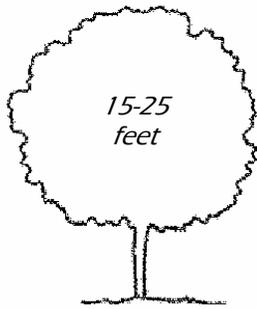
FOLIAGE: Green leaves divided into leaflets. Turns bright red in autumn.

FEATURES: Flat clusters of creamy white flowers in May. Orange to red berries attract fall migrating birds. Hardest of the Mountain Ashes. Zone 2. Slow to moderate growth rate. 15-25 feet tall.

GROWING CONDITIONS: Prefers partial shade and semi-moist, well-drained soil. Best if planted in shade of building or another tree on north or east side. Susceptible to iron deficiency in highly alkaline soil. Needs wind protection.

COMMENTS: Mountain Ashes drop many berries. Not recommended in or near sidewalks because of the berries. Mountain Ash should not be over-watered or planted on sites with poor drainage. Good tree for small location.

LOCATION: No known location in Townsend.



# Oakleaf Mountain Ash

*Sorbus x hybrida*

SHAPE: Open, broad, spreading, round-headed, uniform growth.

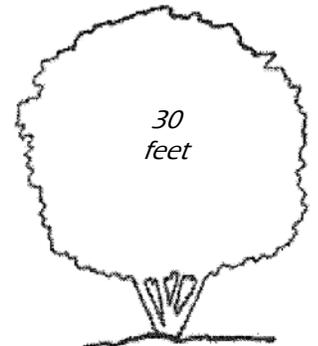
FOLIAGE: Bluish-green leaves divided into leaflets with whitish undersides. Turns orange to red in autumn. Lobed leaves like an English Oak.

FEATURES: Clusters of white flowers. Orange-red berries in autumn attract birds. Moderate growth rate. Fireblight resistant. Hardy. Zone 4. Grows up to 30 feet tall and 20 feet wide.

GROWING CONDITIONS: Prefers partial shade, semi-moist well-drained soil. Subject to iron deficiency in highly alkaline Townsend soils.

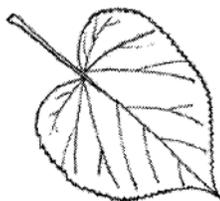
COMMENTS: May be harder than European Mountain Ash. Mountain Ashes drop many berries. Not recommended in or near sidewalks because of the berries. Best if planted in shade of building or another tree on north or east side. Approved for use under all but the lowest power lines. Do not plant in full sun. Formerly called *S. quercifolia*.

LOCATION: No known location in Townsend.



## Littleleaf Linden

*Tilia cordata*



SHAPE: Dense, pyramidal to oval-headed.

FOLIAGE: Heart-shaped, dark green leaves with silvery undersides. Turns yellow in autumn.

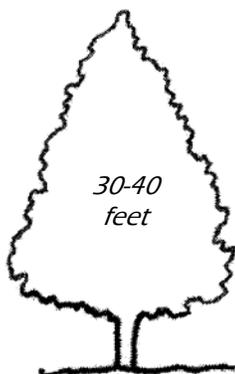
FEATURES: Attractive form. Good street and shade tree. Most common Linden in Helena. Fragrant, tiny, yellowish-white flowers in late June.

Moderate growth rate. 30-40 feet tall.

GROWING CONDITIONS: Prefers full sun and moist, well-drained soil. Tolerates a variety of soils. Needs wind protection.

COMMENTS: Select hardy northern strains. 'Morden' variety is a good bet. New varieties listed under boulevard trees are recommended.

LOCATIONS: Three Littleleaf Lindens are located in front of 416 N. Oak Street. Labeled specimens on Last Chance Walking Mall near Broadway and State Capitol, east lawn.



## Mongolian Linden

*Tilia mongolica*

SHAPE: Dense, spreading, pyramidal to round-headed.

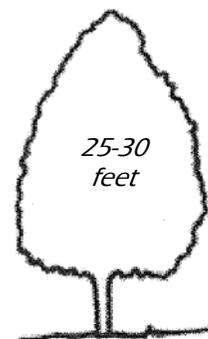
FOLIAGE: Lobed, toothed green leaves turn yellow in autumn.

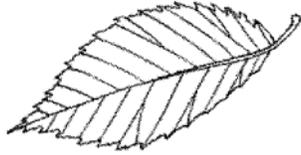
FEATURES: Good shade tree. Small yellowish-white flowers. Moderate growth rate. 25-30 feet tall.

GROWING CONDITIONS: Prefers full sun or partial shade and moist, well-drained soil. Needs wind protection.

COMMENTS: New 'Harvest Gold' selection is hardy, pyramidal form with golden fall color.

LOCATION: No known location in Townsend. In Helena, it may be on the State Capitol, south lawn, but this is not confirmed.





## American Elm

*Ulmus americana*

SHAPE: Varies but most often open, spreading, vase-shaped crown.

FOLIAGE: Elliptical, double-toothed, dark green leaves turn yellow in autumn.

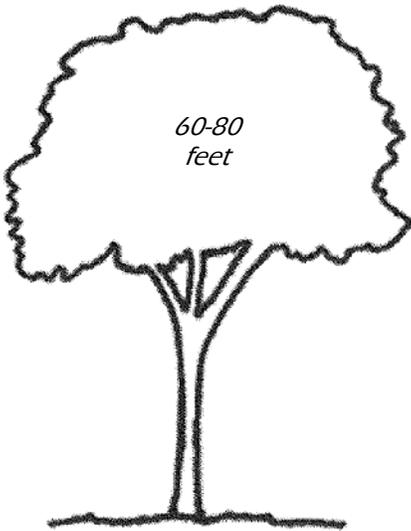
FEATURES: Good shade tree. Lives longer than Siberian Elm. Invasive, shallow roots. Susceptible to Dutch Elm disease, present in Great Falls but not Townsend / Helena area. Moderate to rapid growth rate. 60-80 feet tall.

GROWING CONDITIONS: Prefers full sun and moist soil. Tolerates shade, and wind exposure.

COMMENTS: Look for hardy northern strains, including the 'Brandon' cultivar. The 'Liberty' Elm, American Liberty Elm, selection may be worth a try in Townsend even though it may still be susceptible to Dutch Elm disease and Elm Yellows disease.

Use deep root protectors near sidewalks and driveways.

LOCATION: American Elms line the boulevards at 400 North Cedar.



## Camperdown Elm

*Ulmus glabra* 'Camperdownii'

SHAPE: Very wide, contorted, weeping habit. Dense canopy. Broad flat head at maturity.

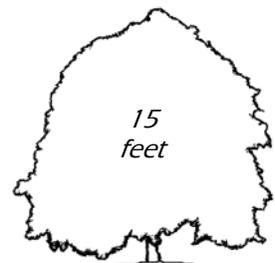
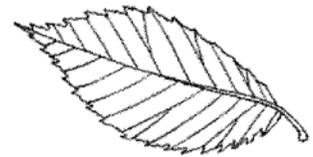
FOLIAGE: Large deep green leaves.

FEATURES: Zig-zag branches. Hardy. Zone 4. Suffers more from summer drought than winter cold. Height 15' feet. Spread 15 feet.

GROWING CONDITIONS: Similar to Siberian Elm and tolerates adverse soil and climate conditions.

COMMENTS: This hybrid does not reproduce from seed. Won't work near sidewalks and driveways cause of weeping habit. Susceptible to Dutch Elm disease. This plant looks better in winter than in summer.

LOCATION: No confirmed location in Townsend.



# Nannyberry Viburnum

*Viburnum lentago*

SHAPE: Open, rounded habit.

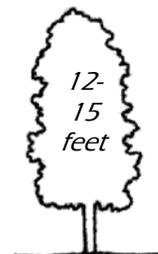
FOLIAGE: Glossy green leaves that turn maroon in fall.

FEATURES: Nice white flowers. Red fruit. Hardy. Zone 2. 12-15 feet tall.

GROWING CONDITIONS: Adapted to a wide variety of soil and climate conditions.

COMMENTS: Tree form version of the popular large growing shrub. Nice accent plant for a small area. Not recommended for boulevards because of the fruit. Recommended for planting beneath power lines in yards.

LOCATION: No known location in Townsend.



# Trees Recommended for General Use in Townsend, But Not for Boulevard Trees (Conifers / Evergreens)



## White Fir / Colorado Fir / Concolor Fir

*Abies concolor*

SHAPE: Dense, narrow, conical to pyramidal habit.

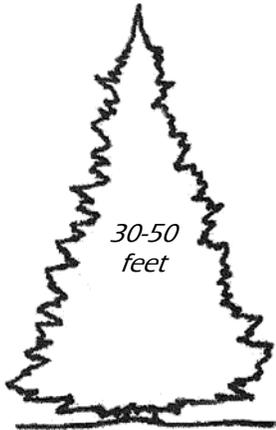
FOLIAGE: Blue-green or gray, soft needles.

FEATURES: Attractive form and silvery foliage. Zone 4. Slow to moderate growth. 30-50 feet tall.

GROWING CONDITIONS: Prefers moist, well-drained soil. Needs wind protection. Plant in a protected environment.

COMMENTS: White fir may be declining in Helena.

LOCATION: Townsend Housing in 400 block of South Spruce in central Courtyard.



## Subalpine Fir/Alpine Fir

*Abies lasiocarpa*

SHAPE: Narrow, pyramidal. Looks like a church steeple in mountains among other trees.

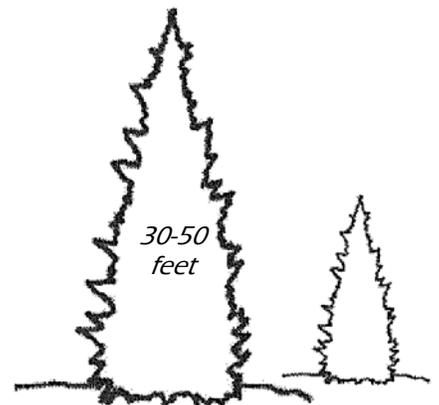
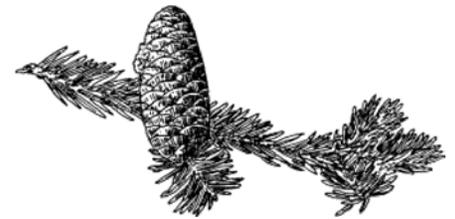
FOLIAGE: Soft, dark green needles up to 1.5 inches long.

FEATURES: Grayish-white smooth bark. Attractive tree when young. Zone 4. Slow to moderate growth. 30-50 feet tall.

GROWING CONDITIONS: Prefers full sun and moist, well-drained soil. Needs wind protection. Best if grown on north or east side of home in partial shade or protected environment.

COMMENTS: This is narrowest native conifer for small residential yards. A new selection 'Arizonica', Corkbark Fir, has attractive, corky white bark and needles with a bluish tint.

LOCATIONS: 133 N. Maple on north side of home on Second Street between a 'Sensation' Box Elder and a "Sunburst" Honey Locust. Can be seen on MacDonald Pass and in the Big Belt Mountains on Duck Creek Pass.



Native



# Rocky Mountain Juniper

*Juniperus scopulorum*

SHAPE: Dense, native, small tree, varies from narrow and pyramidal to broad.

FOLIAGE: Blue-green to dark green scale like needles. Often turns bronze to purple in winter.

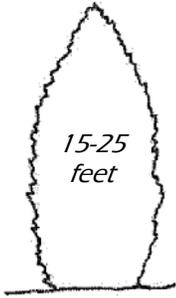
FEATURES: Good form and color. Blue berries. Common in Helena. Hardy. Zone 3. Slow growth rate. 15-25 feet tall.

GROWING CONDITIONS: Prefers full sun. Tolerates drought, wind, and poor soil.

COMMENTS: Many improved selections are available with different colors and shapes.

'Cologreen' is green, 15-20 feet tall, and 5-7 feet wide. 'Medora' is bluish green, 10-12 feet tall, and only 2-4 feet wide. 'Welchi' is bluish-green, 10-12 feet tall, and 4-6 feet wide. 'Wichita Blue' is the most popular. It is silver-blue all year, 8-15 feet tall, and 4-6 feet wide.

LOCATIONS: Native Rocky Mountain Junipers are located in central Memorial Park and in the foothills of the Elkhorn and Big Belt Mountains. A row of 'Wichita Blue' Junipers is located on the south side of the Broadwater County High School. 'Welchi' Junipers can be found southeast of the Broadwater County Museum.



# Weeping Larch / Tamarack

*Larix decidua* 'Pendula'

SHAPE: Broad, weeping habit.

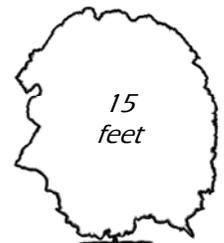
FOLIAGE: Luminous, lime green foliage turns yellow-gold in fall.

FEATURES: Drops its needles in the fall. Tawny twigs. Hardy. Zone 2. Slow to moderate growth. 15 feet tall and 10-12 feet wide.

GROWING CONDITIONS: Prefers full sun and well-drained soil. Tolerates dry sites.

COMMENTS: This may be the best larch for Townsend.

LOCATION: No known location in Townsend.



## Siberian Larch / Tamarack

*Larix sibirica*

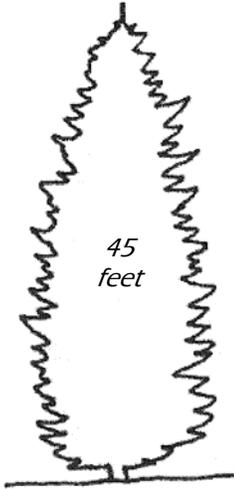
SHAPE: Open, narrow, pyramidal.

FOLIAGE: Soft, flat, light green needles in spring. Outstanding yellow autumn color. Drops needles in winter.

FEATURES: Attractive one-inch cones. Zone 2. Hardest Larch for this area. Moderate growth. Up to 45 feet tall and 6-8 feet wide.

GROWING CONDITIONS: Prefers full sun and well-drained soil. Tolerates dry sites.

LOCATIONS: No known location in Townsend. In Helena, Sanders and Jerome, southeast corner of the intersection.



## Norway Spruce

*Picea abies*

SHAPE: Broad, pyramidal. Branchlets droop gracefully with age.

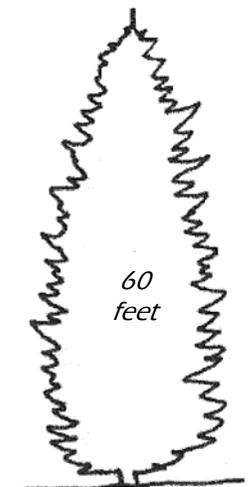
FOLIAGE: Dark green needles arranged in spirals.

FEATURES: Good wind break. Majestic. Cones are pendulous, cylindrical, glossy, four to eight inches long. Moderate to rapid growth. Up to 60 feet tall.

GROWING CONDITIONS: Prefers full sun and semi-moist soil. Tolerates shade.

COMMENTS: Common around Helena, especially near the State Capitol. Ask your nursery for hardy northern strains. Many new selections are available including: 'Acrona' which broad, pyramidal becoming 20 feet wide and 15-20 feet tall with age. Hardy. Zone 3. 'Clanbrassilliana' is a compact and broadly pyramidal dwarf. 15-20 feet tall and 4-6 feet wide. Slow growth. Zone 4. 'Cupressina' is narrow, green, columnar form with a strong vertical accent. Zone 4. Moderately fast growing. 15-20 feet tall. 4-6 feet wide. 'Little Gem' is flat topped, globe shaped and dense. Hardy. Zone 3. 18 feet wide and tall. 'Pendula' is a weeping form 6-10 feet tall. Hardy, Zone 2. Deer resistant. A Weeping Norway Spruce is planted on the south side of the Elementary School east of the Norway Maples.

LOCATION: No known location in Townsend. Southeast lawn, State Capitol.





# Engelmann Spruce

*Picea engelmannii*

SHAPE: Dense, narrow, upright-branching, pyramidal.

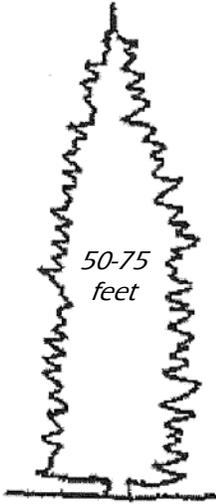
FOLIAGE: Soft or prickly, bluish-green or deep green needles arranged in spirals.

FEATURES: Good wind break. Majestic. Small, cylindrical cones. Woodpeckers expose orange underbark searching for insects. Hardy. Zone 3. Moderate to rapid growth. 50-70 feet tall.

GROWING CONDITIONS: Prefers full sun or part shade and moist, well-drained soil, but also tolerates shade and poor soils.

COMMENTS: Select trees grown east of the Continental Divide. Native east of the Continental Divide.

LOCATION: Two Engelmann Spruces are planted on the north side of Holloway Park. There are lots of Engelmann Spruce in Deep Creek Canyon.



# White Spruce

*Picea glauca*

SHAPE: Dense, narrow, upright-branching.

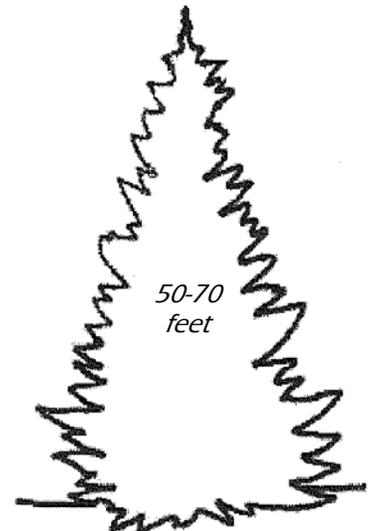
FOLIAGE: Pretty, bluish-green needles.

FEATURES: Good wind break. Cylindrical cones 1 to 2 inches long. Hardy. Zone 3. Moderate growth. 50-70 feet tall.

GROWING CONDITIONS: Prefers full sun and moist, well-drained soil. Tolerates wind, heat, drought and alkaline soil.

COMMENTS: Select native trees grown east of the Continental Divide. Susceptible to Spruce Gall Aphid. Some new selections are available. "North Star" is a compact, pyramidal form. Hardy. Zone 3. Deer resistant. 15 feet tall. 4-5 feet wide. 'Pendula' is a weeping, narrow conical form. Hardy. Zone 2. Deer resistant. 15-20 feet tall. 6-8 feet wide.

LOCATIONS: No known location in Townsend.





## Black Hills Spruce

*Picea glauca 'densata'*

SHAPE: Dense, open, pyramidal habit.

FOLIAGE: Attractive, short, bluish-green needles.

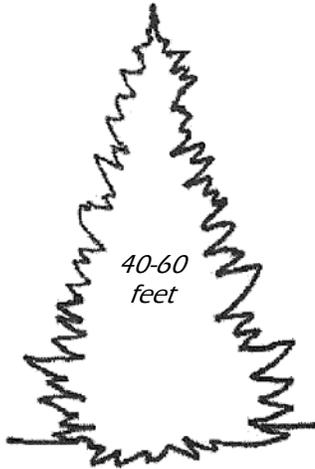
FEATURES: Interesting form, good windbreak. Cones cylindrical, one to two inches long.

Hardy. Zone 3. Slow growth. 40-60 feet tall.

GROWING CONDITIONS: Prefers full sun and moist, well-drained soil. Tolerates wind, drought, and alkaline soil.

COMMENTS: Susceptible to Spruce Gall Aphid. Can be sheared.

LOCATION: No known location in Townsend.



## Serbian Spruce

*Picea omorika*

SHAPE: Narrow, pyramidal.

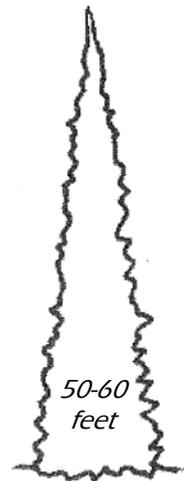
FOLIAGE: Flat, glossy, dark green needles with white undersides.

FEATURES: Attractive form. Reddish-brown cones, one to two inches long. Questionable hardiness. Slow growth. 50-60 feet tall.

GROWING CONDITIONS: Prefers partial shade and moist, well drained soil. Tolerates many soil conditions.

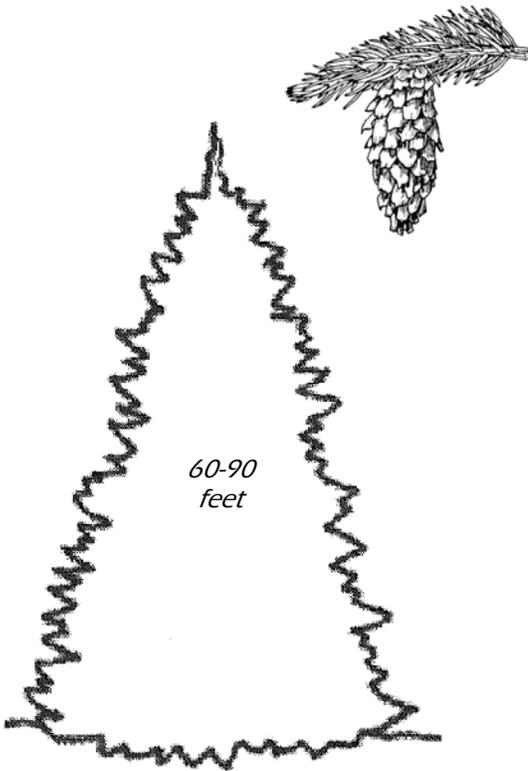
COMMENTS: Plant in a sheltered site with wind protection. A new selection, "Pendula", Weeping Serbian Spruce, is a formal tree with an open form in youth, with branches gracefully recurvate and strictly weeping branchlets. Time and maturity increases its beauty. Deer resistant. 20 feet tall and 10-12 feet wide.

LOCATION: No known location in Townsend.



# Colorado Blue Spruce

*Picea pungens*



SHAPE: Dense, narrow to broad, pyramidal, horizontal-branching, large stately tree.

FOLIAGE: Sharp-pointed needles. Varies from green to blue to silvery-green.

FEATURES: Attractive color. Cylindrical cone 2 to 4 inches long. Very hardy. Zone 2. Slow to moderate growth. 60-90 feet tall. 20-30 feet wide. Deer resistant

GROWING CONDITIONS: Prefers full sun, moist, well-drained soil. Tolerates shade, drought and alkaline soil.

COMMENTS: Most common spruce in Townsend. May be overused. 'Fat Albert' is a dense, blue colored, slow growing, true dwarf selection that only gets 10-15 feet tall and 10-12 feet wide. 'Glauca' is a good blue-green selection but 50-70 feet tall. 'Fastigata' is a columnar form useful in small areas. It is a nice accent spruce, only 20-30 feet tall and 4 feet wide.

LOCATIONS: Heritage Park on the east side facing South Pine.

# Bristlecone Pine

*Pinus aristata*

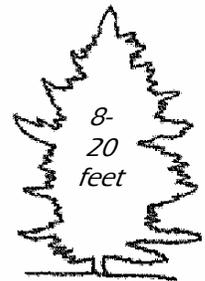
SHAPE: Twisted, irregular shape.

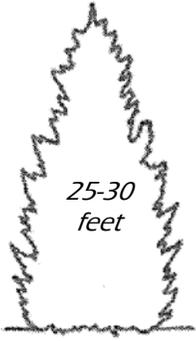
FOLIAGE: Bushy, dark green needles flecked with distinctive white resin spots, five to a bundle.

FEATURES: Excellent landscape tree because of its attractive weathered appearance. Cones dark, cylindrical, purplish-brown. Hardy. Zone 2. Extremely slow growth. 8-20 feet tall and 12-15 feet wide. Deer resistant. One of the oldest living trees on earth.

GROWING CONDITIONS: Prefers full sun and semi-moist or moist, well-drained soil. Tolerates drought and alkaline soil. Needs protected site.

LOCATION: No known location in Townsend. A labeled memorial specimen is located in the southwest corner of the Metcalf Building in Helena.





## Swiss Stone Pine

*Pinus cembra*

SHAPE: Dense, pyramidal when young. Open, flat-topped branches that droop when mature.

FOLIAGE: Stiff, dense, dark green needles, 5 to a bundle.

FEATURES: Attractive form. Cones light brown, smooth, oval, two to three inches long. Slow growth. 25-30 feet tall.

GROWING CONDITIONS: Prefers full sun and moist, well-drained soil. Needs open space to allow air movement.

COMMENTS: Siberian Stone Pine, *Pinus cembra* var. *siberica*, is more broadly pyramidal and may be hardier.

LOCATION: North side of the State Capitol in Helena.

## Lodgepole Pine

*Pinus contorta* var. *latifolia*

SHAPE: Narrow, straight-trunked and dense.

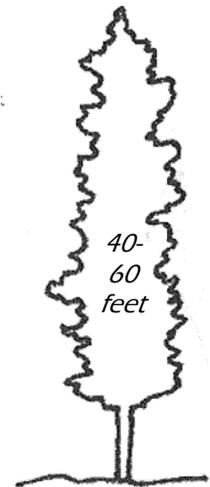
FOLIAGE: Twisted, yellowish-green to dark green needles, 2 per bundle.

FEATURES: Shiny, brown cones, 1 to 2 inches long. Slow growth. 40-60 feet tall. One of the most common native pines in Montana in the mountains.

GROWING CONDITIONS: Prefers full sun and moist, well-drained, gravelly soil. Tolerates many soil conditions.

COMMENTS: Look for trees from east of the divide and from northern latitudes.

LOCATION: On the southeast corner of Heritage Park by the fire hydrant.





## Limber Pine

*Pinus flexilis*

SHAPE: Broadly pyramidal to rounded. Often multi-stemmed. Irregular form if on windy site.

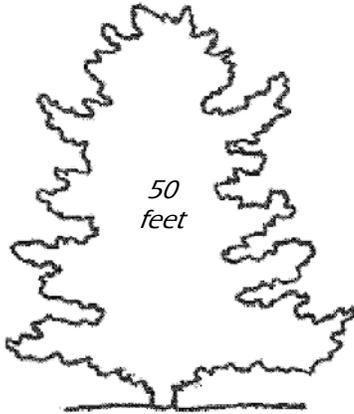
FOLIAGE: Dense, slightly twisted, dark green needles, 5 to a bundle.

FEATURES: Attractive native form not often seen in cultivation. Cylindrical cones, up to 5 inches long. Hardy. Zone 2. Slow to moderate growth. 50 feet tall. Up to 20 feet wide.

GROWING CONDITIONS: Prefers full sun and well-drained soil. Tolerates drought and many soil conditions. Tolerates the most windy sites.

COMMENTS: Look for trees from northern latitudes and east of the Continental Divide.

LOCATION: No known location in Townsend. Common on windy ridges in the limestone hills west of Townsend where it has an irregular habit because of the wind.



## Mugo Pine / Swiss Mountain Pine

*Pinus mugo* (tree form)

SHAPE: Broadly upright.

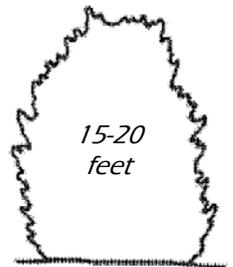
FOLIAGE: Stiff, curved, medium to dark green needles, two to a bundle.

FEATURES: Needles turn yellowish-green in autumn. Dwarf varieties available. Hardy. Zone 2. Slow growth rate. 15-20 feet tall and wide.

GROWING CONDITIONS: Prefers full sun. Tolerant of windy sites and many soils. Needs room to spread out. Can be pruned to control height and density.

COMMENTS: 'Big Tuna' is a compact, dense selection with an unusual upright form, 8-10 feet tall and 4-5 feet wide. 'Tannenbaum' is a compact, upright, pyramidal form that grows 8-10 feet tall and 5-7 feet wide.

LOCATIONS: No known location on public property in Townsend. There is some old Mugo Pines south of the Metcalf Building in Helena and east of the main entrance.





## Austrian Pine/ Austrian Black Pine

*Pinus nigra*

**SHAPE:** Open, pyramidal, upright-branching, becoming broad and flat-topped with age.

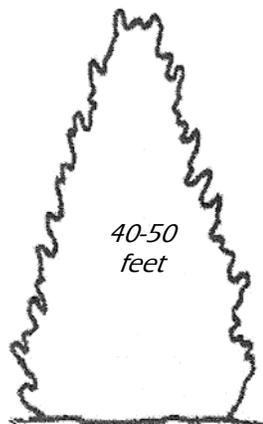
**FOLIAGE:** Dense, stiff, sharp, glossy, long, dark green needles, two to a bundle.

**FEATURES:** Majestic appearance. Oval, brown cones, 2 to 4 inches long. Hardy. Zone 4. Slow to moderate growth. 40-50 feet tall. 20 feet wide. Deer resistant.

**GROWING CONDITIONS:** Prefers full sun. Tolerates salt, urban pollution, heavy clay, and alkaline soil. Marginal hardiness. Needs wind protection.

**COMMENTS:** 'Arnold Sentinel' is a slow growing, columnar form that gets up to 25 feet tall and only 4 feet wide.

**LOCATIONS:** No known locations in Townsend. Some young Austrian Pines have been planted at 401 S. Spruce, facing D Street.



## Ponderosa Pine / Western Yellow Pine

*Pinus ponderosa*

**SHAPE:** Large growing, open, narrow to conical habit.

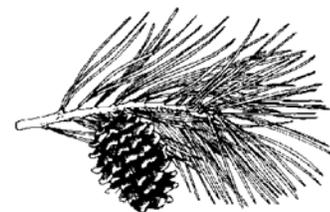
**FOLIAGE:** Dense, firm, sharp, long green needles, 3 to a bundle.

**FEATURES:** Attractive in mass plantings. Cones reddish brown, prickly, three to five inches long. Very hardy. Zone 2. Moderate to rapid growth. 50-75 feet tall.

**GROWING CONDITIONS:** Prefers full sun and moist, well-drained soil, but tolerates drought, salt and alkaline soil.

**COMMENTS:** Native. State tree of Montana. Look for trees from east of the Continental Divide. The most common pine in eastern Montana and in the lower elevations around Helena. Does not transplant easily.

**LOCATIONS:** There is a large Ponderosa Pine in the yard in the 400 block of North Spruce immediately north of the fence that abuts to 410 N. Spruce. There is also a young Ponderosa Pine planted in Holloway Park.





## Scotch Pine/Scots Pine

*Pinus sylvestris*

**SHAPE:** Straight, pyramidal, becoming open, broad, flat-topped, losing lower branches with age. Irregular spreading habit.

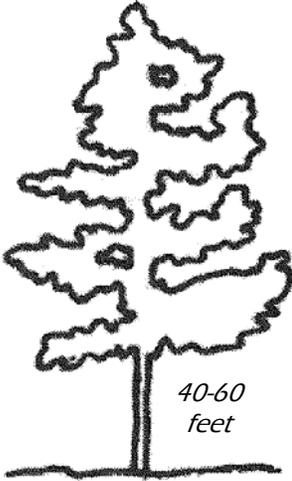
**FOLIAGE:** Stiff, twisted, 1-3 inch bluish-green needles, two to a bundle.

**FEATURES:** Mature trees shed outer bark, exposing attractive orange inner bark. Good wind break. Reddish-brown cones up to two inches long, tightly attached to branches. Hardy. Zone 3. Moderate growth. 40-60 feet tall.

**GROWING CONDITIONS:** Prefers full sun and well-drained soil. Tolerates wind, drought, and many soil conditions.

**COMMENTS:** Look for northern Europe and Asian strains.

**LOCATIONS:** Memorial Park on northeast corner facing Walnut Street.



## Douglas Fir

*Pseudotsuga menziesii* var. *glauca*

**SHAPE:** Open, narrow, drooping lower branches, pyramidal ascending upper branches.

**FOLIAGE:** Soft, glossy blue-green needles with white undersides.

**FEATURES:** Cylindrical cones with projecting, 3-pronged bracts. Hardy. Zone 4. Moderate growth rate. 40-80 feet tall.

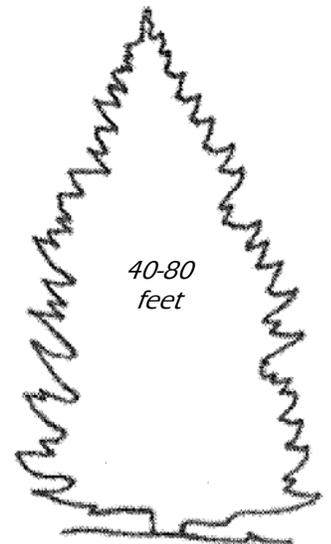
**GROWING CONDITIONS:** Prefers full sun or partial shade, and moist, well-drained soil; also tolerates drought.

**COMMENTS:** Native tree common in western Montana.

**LOCATIONS:** 132 North Walnut on northeast corner of lot next to the alley. Deep Creek Canyon.



Native





## Columnar Arborvitae

*Thuja occidentalis*

SHAPE: Dense, columnar habit.

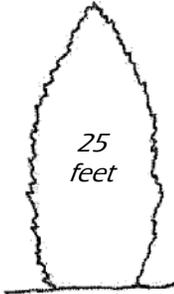
FOLIAGE: Attractive, green to dark green cedar foliage.

FEATURES: Hardy. Zone 3. Moderate to rapid growth. Up to 25 feet tall and 4 feet wide.

GROWING CONDITIONS: Plant in sun or light shade.

COMMENTS: Select hardy northern strains. Plant in protected locations. Excellent for accent plants near foundations or for screens in tight spaces. The "Masonic" selection was developed in Helena by Valley Nursery. 'Techny' is a fast growing dark green selection that gets 12-15 feet tall and 6-8 feet wide. 'Brandon' is the same size as 'Techny' and is noted for durability on harsh sites. 'Emerald' has a compact, dense pyramidal habit. It is 12-15 feet wide and only 3 feet wide. It holds its color throughout the winter.

LOCATIONS: 801 Broadway west of front steps. 215 S. Maple on side street.



## Trees Not Recommended for Townsend (Broadleaf)



### Box Elder / Manitoba Maple

*Acer negundo*

SHAPE: Open, spreading, oval-headed.

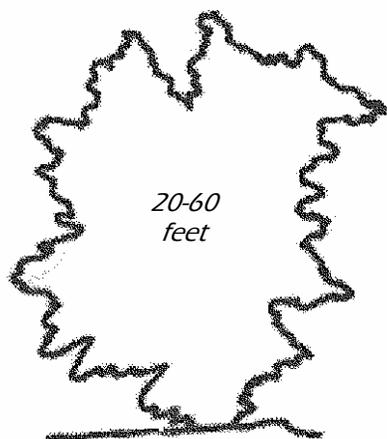
FOLIAGE: Bright green leaves with grayish-green undersides divided into 3 to 5 oval leaflets. Turns yellow to orange-red in autumn.

FEATURES: Branches break easily. Rapid growth while young. Prune regularly to thin branches. One of the hardiest large maples. Suckers badly. Zone 2. Grows to 20-60 feet tall.

NOTE: Most old box elders in town are volunteers and are the native female trees that produce many seeds and have red and black Box Elder bugs. Male trees have no pheromones to attract Box Elder bugs.

GROWING CONDITIONS: Full sun and moist, well-drained soil. Tolerates shade and poor soils.

LOCATION: There are large native Box Elders located at 212 North Oak and 204 N. Walnut.



### Norway Maple

*Acer platanoides*

SHAPE: Dense, oval to round-headed.

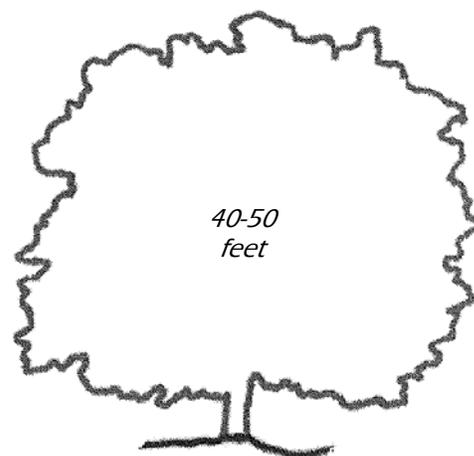
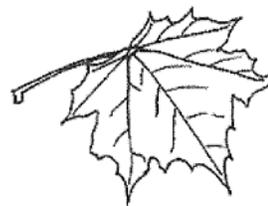
FOLIAGE: Five-lobed, dark green leaves with pale undersides. Turns yellow to light orange in fall.

FEATURES: Clusters of greenish-yellow flowers. Good shade tree. Shallow-rooted. Marginal hardiness. Zone 4. Moderate growth rate. 40-50 feet tall and wide.

GROWING CONDITIONS: Prefers full sun, moist soil, protected location.

COMMENTS: Not generally hardy in Townsend. Try the 'Helena' and 'Emerald Lustre' varieties. The 'Helena variety' was developed by Valley Nursery of Helena. Not recommended for a boulevard tree in Townsend because it is too wide and needs a protected location.

LOCATION: There are two large specimens on south side of Cecelia Hazelton Elementary School at 201 N. Spruce.





## 'Northwood' Red Maple

*Acer rubrum* 'Northwood'

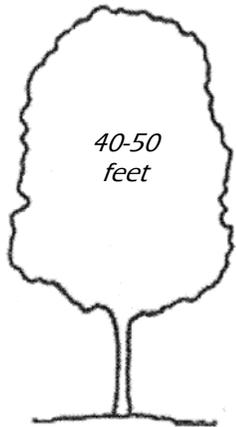
SHAPE: Large, upright, round to oblong habit.

FOLIAGE: Typical maple leaves green in summer, orange to red leaves in fall.

FEATURES: Marginal hardiness. Zone 3. Nice shade tree for large areas. Slow grower. 40-50 feet tall.

GROWING CONDITIONS: Does not tolerate alkaline soils in Townsend. Needs iron supplement in Townsend soils.

LOCATION: A Red Maple is surviving at 133 N. Maple, north of the driveway.



## Silver Maple

*Acer saccharinum*

SHAPE: Open, spreading, oval to vase shaped.

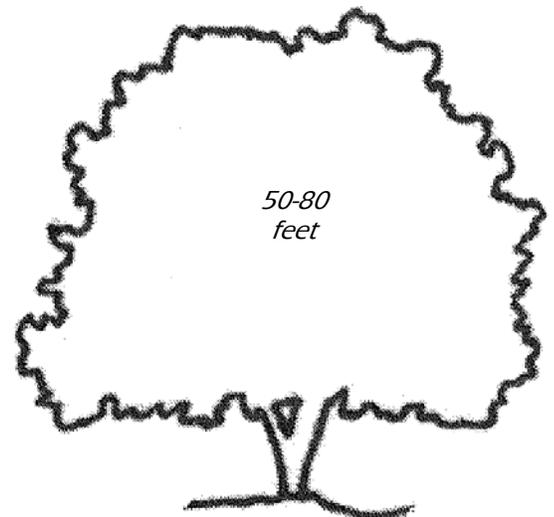
FOLIAGE: Five-lobed light green leaves with silvery undersides. Turns yellow in autumn.

FEATURES: Short-lived. Brittle wood. Shallow roots. Rapid growth. This large maple tree is not recommended for use in Townsend because its branches break easily. Marginal hardiness. Zone 4.

GROWING CONDITIONS: Prefers sun and moist soils. Subject to iron deficiency in highly alkaline soils.

COMMENTS: Ask your nursery for hardy northern strains. 'Silver Queen' may be the hardiest variety. May experience tip die back in winter. There is a cross between *A. saccharinum* and *A. freemanii* 'Sienna' called 'Sienna Glen' Maple. It is a hardier selection of the Silver and Red Maple hybrids. Another *Acer* x. *freemanii* selection is 'Autumn Blaze'.

LOCATIONS: No known location in Townsend. One 'Autumn Blaze' Red Maple is surviving at 133 N. Maple on the east side of the house next to Maple Street and north of the driveway.





## Northern Catalpa

*Catalpa* species

SHAPE: Irregular rounded crown. Moderate density.

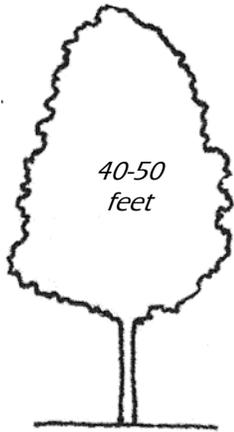
FOLIAGE: Large heart-shaped leaves.

FEATURES: Branches are twisted. White flowers appear in 4-8 inch panicles. Fruit is a long persistent pod. Zone 4. Height 40-50 feet. Spread 25-30 feet.

GROWING CONDITIONS: Drought tolerant.

COMMENTS: This species has limited use in Townsend in a protected location.

LOCATION: No known location in Townsend.



## Russian Olive

*Elaeagnus angustifolia*

SHAPE: Open, low-branching, oval-headed.

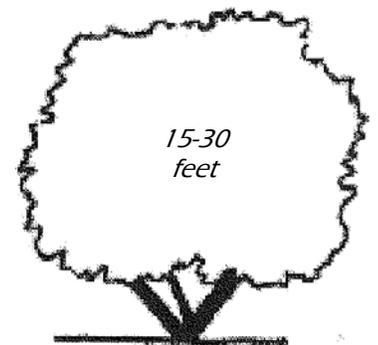
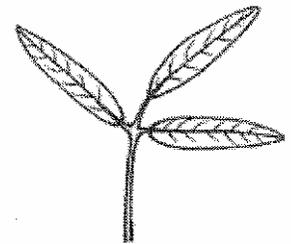
FOLIAGE: Long narrow silver-gray leaves that last into winter makes an accent plant in the landscape.

FEATURES: Small, fragrant yellow flowers in May. Seeds useful winter bird food. Very hardy. The tree form is the best. Moderate to rapid growth. 15-30 feet tall.

GROWING CONDITIONS: Prefers full sun or partial shade. Tolerant of wind, heat, salt, and poor soil.

COMMENTS: Thorny. Disease prone. Tends to be short-lived. Use sparingly for silver foliage contrast. Not recommended for Townsend as it is spreading in the Missouri River bottom at the expense of native trees. It has been suggested to list it as a noxious weed, especially in eastern Montana along stream and river bottoms.

LOCATION: On the north and east sides of 522 South Elm Street. The Canyon Ferry Wildlife refuge north of Townsend is full of Russian Olive where it is displacing native cottonwoods and willows.





# White Poplar / Silver Poplar / Mapleleaf Cottonwood / White Cottonwood

*Populus alba*

SHAPE: Open, wide-spreading, round-headed.

FOLIAGE: Green leaves with 3 to 5 lobes and silvery undersides.

Turns yellow in autumn.

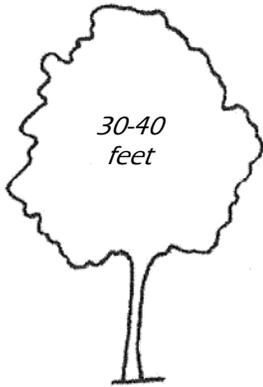
FEATURES: Rapid growth. Largest diameter cottonwoods in Townsend with trunks up to 5 feet in diameter at breast height.

GROWING CONDITIONS: Full sun and moist well-drained soil. Tolerates drought, salt, urban pollution, and many soil conditions.

Hardy. Zone 2. 50-80 feet tall and 30-40 feet wide.

COMMENTS: These trees are sold by some nurseries because of their rapid growth. Within 15 years, the trees can be problematic in residential yards. Not a good landscape tree because of its large size and shallow, invasive, suckering roots. The White Poplars are problem trees in Townsend and not recommended because they produce the white cotton in the spring, they send underground stems up to a hundred feet away from the parent tree, and they crack foundations, sidewalks and streets. Best used in rural areas with large yards.

LOCATION: 702 Broadway on the northwest corner of the lot on Broadway and Cherry.



# Narrowleaf / Lanceleaf Cottonwood

*Populus angustifolia*



SHAPE: Pyramidal when young; open, broad, spreading, oval-headed when mature.

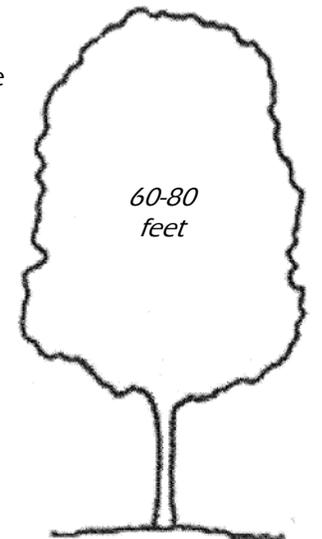
FOLIAGE: Narrow, green leaves. Turns yellow in autumn.

FEATURES: Limited application as a landscape tree because of shallow, invasive, suckering roots. Good wind break. Rapid growth rate. Hardy. Zone 3. 60-80 feet tall. Native tree that grows well in high altitudes.

GROWING CONDITIONS: Prefers full sun and moist, well-drained soil but tolerates dry, alkaline soil.

COMMENTS: These trees are sold by some nurseries because of their rapid growth but within 15 years can be problematic. Not a good landscape tree because of the large size and shallow, invasive, suckering roots. Narrowleaf Cottonwoods are problem trees in Townsend and not recommended because they produce the white cotton in the spring, they send underground stems many feet away from the parent tree, and they crack foundations, sidewalks and streets.

LOCATION: No known location in Townsend.





# Black Cottonwood / Balsam Poplar

*Populus balsamifera (P. trichocarpa)*

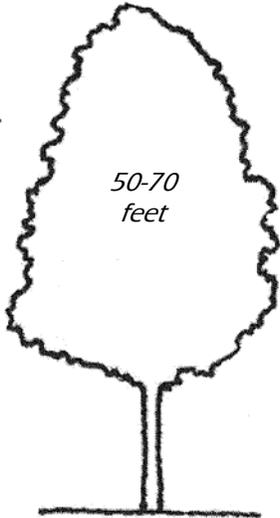
SHAPE: Pyramidal when young; open, broad, spreading, oval-headed when mature.  
FOLIAGE: Narrow to triangular, glossy dark green leaves with whitish undersides. Turns yellow in autumn.

FEATURES: Not a good landscape tree because of suckering roots. Good wind break. Hardy native tree. Zone 2. Rapid growth rate. 50-70 feet tall.

GROWING CONDITIONS: Prefers full sun and moist, well-drained soil, but tolerates dry, alkaline soil.

COMMENTS: Not a good landscape tree because of shallow, invasive, suckering roots. Black Cottonwoods / Balsam Poplars are problem trees in Townsend because of their size and are not recommended because they would produce white cotton in the spring, they would send underground stems many feet away from the parent tree, and they would crack foundations, sidewalks and streets. This is the cottonwood used by Lewis and Clark to make their dugout canoes.

LOCATION: There are four Black Cottonwoods in McCarthy Park.



Native

# Plains Cottonwood

*Populus deltoides*

SHAPE: Dense, broad, spreading, oval-headed.

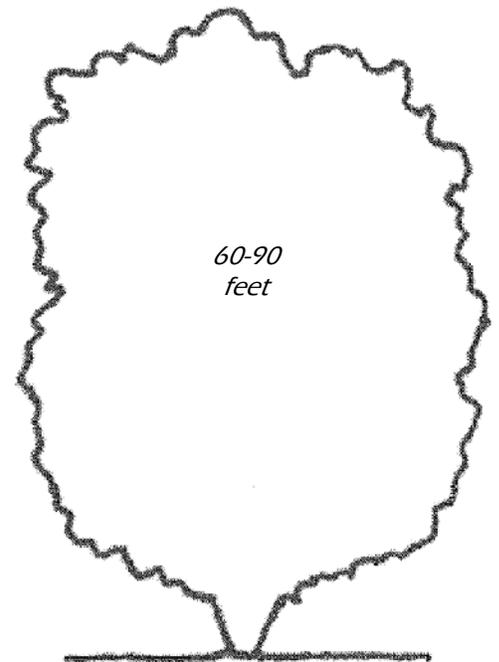
FOLIAGE: Broad, oval, glossy bright green leaves turn yellow in autumn.

FEATURES: Majestic native tree. Grows on river bottoms all across the prairies. Rapid growth rate. 60-90 feet tall.

GROWING CONDITIONS: Prefers full sun and moist, well-drained soil. Tolerates urban pollution and dry, alkaline soil.

COMMENTS: These trees are sold by some nurseries because of their rapid growth but within 15 years can be problematic. Not a good landscape tree because of the large size. Plains Cottonwoods are problem trees in Townsend and are not recommended because they produce white cotton in the spring and they would crack foundations, sidewalks and streets. Choose cottonless varieties.

LOCATION: No confirmed identification in Townsend. In Helena, in Women's Park east side near the alley.



Native



## 'Siouxland' Poplar

*Populus deltoides* 'Siouxland'

SHAPE: Dense, broad, spreading, round-headed.

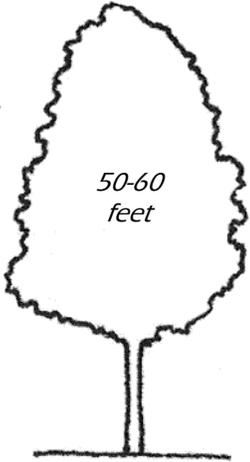
FOLIAGE: Broad, oval, glossy bright green leaves turn yellow in autumn.

FEATURES: Rapid growth. Very large tree. 50-60 feet tall. Seedless selection.

GROWING CONDITIONS: Prefers full sun and moist, well-drained soil. Tolerates urban pollution and dry, alkaline soil.

COMMENTS: These trees are sold by some nurseries because of their rapid growth but within 15 years can be problematic. Not a good landscape tree because of the large size. 'Siouxland' Poplars are problem trees in Townsend. Because of their size, they crack foundations, sidewalks and streets.

LOCATION: Several hybrid poplars have been planted in Townsend in the last twenty years and are rapidly outgrowing their locations. 128 N. Maple, 801 Broadway, and 132 N. Walnut are some good examples.



50-60  
feet

## Lombardy Black Poplar

*Populus nigra* 'Italica'

SHAPE: Dense, narrow, columnar.

FOLIAGE: Diamond-shaped dark green leaves with pale undersides.

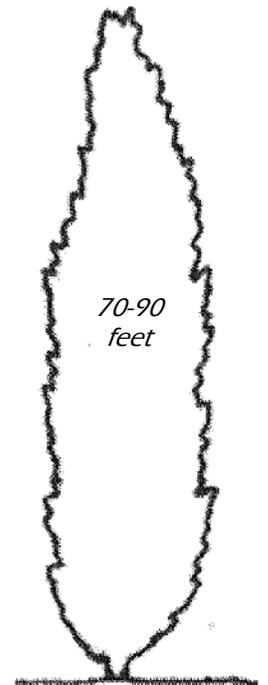
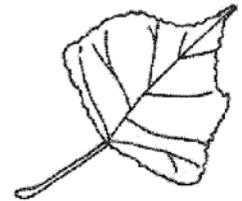
Turns yellow in autumn.

FEATURES: Marginal hardiness.

Male trees produce red catkins. Invasive roots. Susceptible to canker disease. Short-lived. Extremely rapid growth. 70-90 feet tall.

GROWING CONDITIONS: Prefers full sun and moist, well drained soil.

LOCATION: 508 S. Walnut



70-90  
feet



## Staghorn Sumac

*Rhus typhina*

SHAPE: Coarse upright habit.

FOLIAGE: Oriental leaf with multiple linear leaflets. Dark green in summer and red in fall.

FEATURES: Attractive, invasive shrub to small tree that spreads many feet from the parent plant. Develops a grove of plants from a single source. Hairy stems. Fragile wood. Hardy. Zone 3. 10-15 feet tall.

GROWING CONDITIONS: Drought tolerant.

COMMENTS: Best in shrub borders on large acreage.

LOCATION: A grove of Staghorn Sumacs can be seen at 133 N. Maple on the southeast side of the house next to the front porch.



## White Willow

*Salix alba*

SHAPE: Open, broad, low-branching, round-headed.

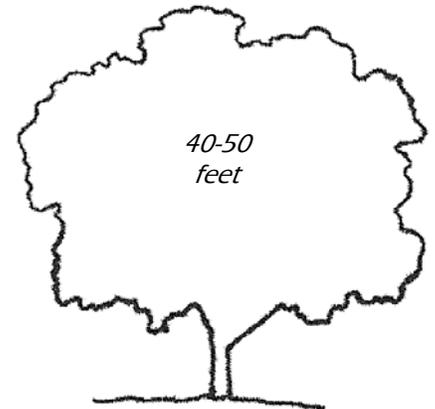
FOLIAGE: Attractive silvery leaves.

FEATURES: Hardest of the willows. Large tree for large sites. Not a suitable street tree. Invasive roots. Rapid growth. 40-50 feet tall.

GROWING CONDITIONS: Prefers full sun and moist or wet soil. Tolerates wind exposure and many soil conditions.

COMMENTS: Common cultivars are Siberian White Willow, *Salix alba* 'Sericea' and *Salix alba* 'Vitellina', Golden Willow, with bright gold bark. Sheds many branches.

LOCATION: No known location in Townsend. Excellent Golden Willow behind and just northwest of Fish, Wildlife, and Parks Building in Helena.





## Laurel Leaf Willow

*Salix pentandra*

SHAPE: Dense, broad, oval to upright round-headed.

FOLIAGE: Glossy dark green leaves with bluish-white undersides.

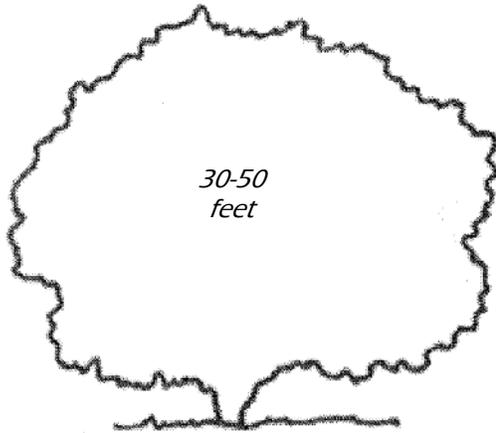
FEATURES: Stout and very picturesque. Catkins on male trees in spring.

Green bark. Moderate to rapid growth. 30-50 feet tall.

GROWING CONDITIONS: Full sun and moist soil. Tolerates many soil conditions. Needs wind protection. Use in large areas. Not recommended for residential yards in town.

COMMENTS: Sheds many branches.

LOCATIONS: No known location in Townsend. Guadalupe Hall, south lawn, Carroll College; large specimen between Carroll College Commons and O'Connell Hall.



## 'Prairie Cascade' Weeping Willow

*Salix* x 'Prairie Cascade'

SHAPE: Weeping habit.

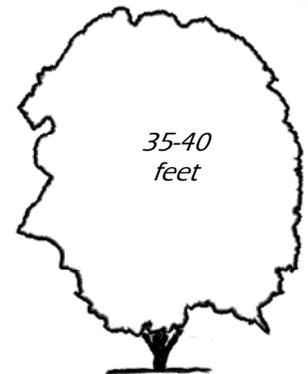
FOLIAGE: Glossy green leaves.

FEATURES: Golden branches. Hardy. Zone 3. Moderate to rapid growth. 35-40 feet tall and wide.

GROWING CONDITIONS: Tolerates moist soil conditions.

COMMENTS: Canadian introduction from the Morden Experimental Station in Manitoba, Canada. Use in large areas. Not recommended for residential yards in town.

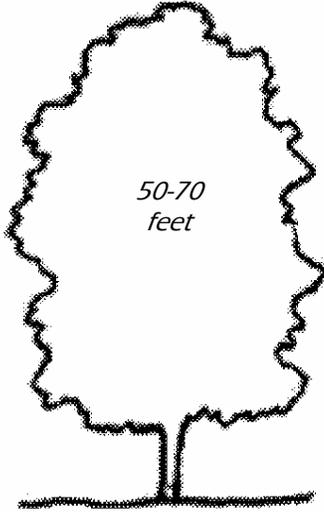
LOCATIONS: No known location in Townsend.





## Siberian Elm

*Ulmus pumila*



**SHAPE:** Fine textured, irregular growth habit with many small flexible pendulous branches.

**FOLIAGE:** Leaves serrate, dark green above, grayish green underneath. Turning yellow brown in fall. Last leaves to fall in the autumn. Zone 4. Fast growth rate. 50-70 feet tall. 40 feet wide.

**FEATURES:** No flower value. Invasive by seed. Lots of seed production. Seed is a rounded samara. Self-pruning brittle branches.

**GROWING CONDITIONS:** Very adaptable to all growing conditions. Drought resistant. Tolerant of moist soils and adverse conditions.

**COMMENTS:** This species is not recommended for Townsend as it is a large tree that cracks sidewalks, driveways, and foundations. It is messy, shedding many branches after wind storms. Many volunteer seedlings survive every year in waste places in town causing problems as they mature. The 'Lincoln' variety is resistant to Dutch Elm disease. It has dark green leaves and is a hardy, Zone 3 plant. It is also not recommended in Townsend. Siberian Elm is commonly used in shelterbelts across Montana.

**LOCATION:** On North Cedar lining the boulevard by the east entrance to the High School.

## Conifers/Evergreens



### European Larch/Common Larch

*Larix decidua*

SHAPE: Open, narrow, horizontal-branching, drooping branchlets, pyramidal.

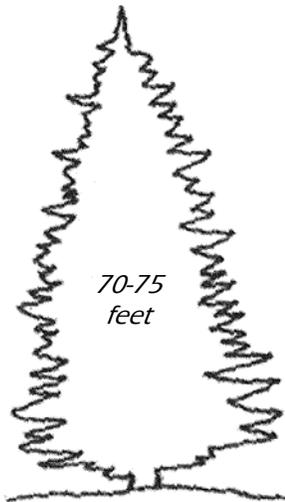
FOLIAGE: Soft, dark green needles that turn yellow in autumn and then drop.

FEATURES: Moderate to fast growth. 70-75 feet tall.

GROWING CONDITIONS: Prefers full sun and moist, well-drained soil. Sensitive to shade.

COMMENTS: Ask your nursery for hardy northern strains.

LOCATIONS: No known location in Townsend. In Helena, there is a nice tree on north side of Holiday Inn Park Plaza just off Last Chance Gulch Walking Mall; labeled specimen at State Capitol, southeast corner.



### American Larch

*Larix laricina*

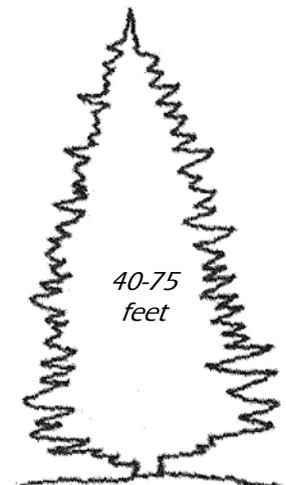
SHAPE: Open, narrow, horizontal-branching, drooping branchlets, pyramidal.

FOLIAGE: Soft, light green needles turn yellow in autumn and then drop.

FEATURES: Slow to moderate growth. 40-75 feet tall.

GROWING CONDITIONS: Prefers full sun. Grows in swamps. Tolerates many soil conditions. Sensitive to shade.

LOCATION: No known location in Townsend.





# Western Larch / Tamarack

*Larix occidentalis*

SHAPE: Open, narrow, horizontal-branching, drooping branchlets, pyramidal.

FOLIAGE: Stiff, sharp green needles turn yellow to orange in autumn and then drop.

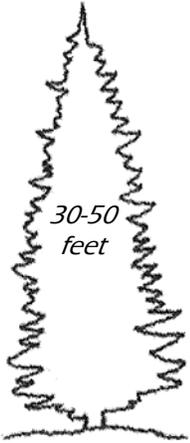
FEATURES: Moderate to rapid growth. 30-50 feet tall.

COMMENTS: Native to Montana west of the Continental Divide.

GROWING CONDITIONS: Prefers full sun and moist, well-drained soil. Tolerates many soil conditions. Sensitive to shade and urban pollution. Plant in protected location.

COMMENTS: Not reliably hardy east of the Continental Divide.

LOCATION: No known location in Townsend. Labeled specimen at southeast corner of the State Capitol near the sidewalk.



# GREEN END UP (BROWN END DOWN) A Guide To Planting Trees

Planting trees involves some science and a fair amount of art. The nursery people differ on the details and they all have good reasons for their approaches. You're best off asking your nursery if you have questions. But if you want a second opinion, here is what Growing Friends of Helena does:

## *Buy trees appropriate for this climate*

The Townsend and Helena area is in the U.S. Department of Agriculture Hardiness Zone 4a, so you are plenty safe with Zone 2 and 3 plants. Zone 4 plants usually work, too; it all depends on your microclimate. Make sure the plants you choose were grown on tree farms in areas as cold and dry as Montana. Most of all, talk with your nursery.



## *Think before you dig*

Don't dig up your gas line! Call 1-800-424-5555 for a free locate service for underground power, gas, and communication lines. In Townsend, you need to call the City Office at 266-3911 to have your water line located. You are, however, responsible for locating your own underground lawn sprinkler lines. Don't plant an oversized tree under a power line or to near a traffic sign or light pole.

Leave at least 5 feet between your tree and the underground utility line to get a backhoe in if repairs are needed in the future. If you have an old leaky sewer line, leave more room and choose trees whose roots aren't so invasive. If you have a new PVC line, you can worry less about roots.



Spacing of trees is somewhat a personal preference. Most professionals recommend you don't plant trees too close to the house or too close to each other that mature trees will touch. If you do, the trees won't develop award-winning shapes and could cause maintenance problems. Even so, some of us like trees close together like in the old parts of town.

## *Dig the hole big enough*

"Big enough" means bigger than the root ball of the tree. How much bigger depends on your philosophy and how hard it is to dig. We recommend digging at least a few inches wider all the way around and a few inches deeper. Others recommend even bigger holes. It's important to loosen up the soil at the bottom of the hole. A shovel may be the only tool you need, but a spud bar (which is a big, heavy steel pole) can be handy for prying out big rocks.

## *Loosen up the root ball*

If the tree has been potted for a while, it can be root bound, with roots entwining the outside of the ball. Just take the edge of your shovel and cut gashes all around the root ball before you plant. A tree that was potted this spring will be plenty loose in the potting mixture, maybe even so loose it falls away from the soil. Don't panic. Just get it covered (gently!) right away so the sun doesn't scald it. Better yet, buy well-rooted specimens.

## *Backfill with something*

Use the darkest, least rocky soil from the hole you just dug plus compost. Or backfill with clean dirt you got from the nursery or wherever. Don't backfill with pure compost. Tamp the soil down as you backfill; be sure you leave no air pockets. If you toss sod back in the hole, make sure the green portion is toward the side of the hole and away from the tree roots. No fertilizer the first year. The Townsend Tree Board recommends adding wood-based compost, organic fertilizer, an iron-supplement, and bone meal to the dirt.



### *Plant the tree at the right depth*

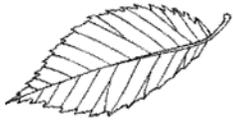
Generally the top of the soil in the pot should sit level with the ground. Planting trees too deep is a major cause of death in planted trees. If your tree has been grafted, which most deciduous trees are, you can see an obvious scar at the bottom of the trunk, right above the roots. Make sure the graft sits an inch or so above the ground level. Otherwise, you'll get suckers growing out of the bottom. To make watering easier, you can build up basin walls three or four inches around the edge of the hole.



### *Water your tree!*

You can fill the hole with water and let it soak before you plant, which can be quick but dirty (or slow but dirty), or you can backfill most of the way to the top, soak slowly, then backfill the rest of the way. Soak long enough to get water to the bottom of the hole. Don't pack the dirt around the hole with your feet.

### *Stake your tree*



Staking your tree is a good idea, especially if it's been potted this year, if you live in a high wind area, or if you have lots of kids or deer around. Generally, the larger the tree or the bigger the root ball, the less need to stake it. A couple of 2x 2's from the lumber yard make the easiest, quickest stakes. They'll rot out in a few years and should be removed then. Trees that grow in a clump don't need to be staked.

### *Use weed eater guards*

More trees are lost to weed eaters than any other cause. Don't assume you can be careful enough and don't assume lawn service folks will be careful enough. The plastic guards are available at any nursery and well worth it.

### *Water some more!*

Keep watering. Water it every few days for the first couple of weeks. After that, a new tree needs to be soaked at least once a week, and sometimes more. The hotter it is, the more you water. If the leaves still look droopy after the sun starts to set, you need to water. (However, remember that heavy clay soils need less water. It's difficult but definitely possible to drown a tree in the Townsend /Helena area). Stop your watering in September to harden the tree off, and then soak it again after the leaves drop off. Next spring, start watering when the tree buds out, but not before. You can water evergreens all year round.

### *Wrap young trees in winter*

Young broadleaf trees should be wrapped with tree wrap after the leaves fall to prevent sun scald. Young maples are susceptible to papery bark and need to be wrapped. Remove the wrap in spring when the buds start to swell.



# Glossary of Terms

The following terms encountered in the text of *Trees for Townsend* may be unfamiliar. For more details about soil conditions, tree diseases, and other subjects, consult a field guide or other technical source.

Acidic soil: Low pH soil

“Adverse” conditions: Wind, drought, poor soil, temperature extremes in any combination.

Alkaline soil: High pH soil. The Townsend/Helena tends to have alkaline soils.



Broadleaves: Trees that bear flat leaves that vary greatly in shape and fall off in winter.

Bronze birch borer: A small slender beetle native to North America whose larva tunnel under them bark, girdling a branch or trunk, and cutting off the flow of sap. Tree death is almost certain.

Canker: A localized disease area or lesion in tree bark, usually caused by fungi and often resulting in an open wound. *Cytospora* canker is very common in most Cottonwoods and Poplars.

Catkin: A compound bloom consisting of scaly bracts and flowers usually of one sex. Pussy Willows are an example.

Cedar/Hawthorn rust: A fungus of Hawthorns, Rocky Mountain Juniper, and some Cedars. To survive, the fungus must “move” from one type of host to another, i.e. from a Juniper to a Hawthorn.

Clay soil: Fine-textured soil that holds water and doesn’t drain well.

Cone: Seed bearing structure of certain trees.



Conifer: A tree that bears cones.

Cultivar: ‘Cultivated variety’ (cv.). A unique form or type propagated and maintained for specific purposes. In this booklet we also use the term ‘selection’ to indicate plants that have been produced for specific purposes.

*Cytospora* canker is very common in most Cottonwoods and Poplars.

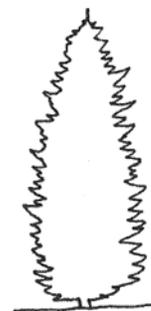
Deciduous: Trees that drop their leaves or needles in the autumn.

Dutch Elm disease: A vascular wilt disease caused by beetles that burrow and lay eggs in dying or dead Elm wood, distributing the fungus *Ceratocystis ulmi*.

Evergreen: A tree that retains at least some leaves through winter.

Flower: Reproductive structure of a plant.

Fruit: Seed bearing part of a plant.



Gallmite: Microscopic carrot-shaped mites that become active in early spring and feed on new leaves, causing an unsightly but not damaging gall.

Genus: Closely related species. Plural of genus is genera.

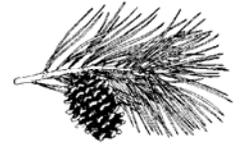
Hybrid: Cross between two species.

Leaf: Plant structure which is the primary location for photosynthesis. Long slender leaves are often referred to as needles.



**Microclimate:** The localized area where you plant a tree. Trees respond differently to being planted on the south side of the house or the north side of the house. This is a response to the microclimate created by the house.

**Needles:** Long, slender leaves typical of many gymnosperms, which are trees usually known as softwoods, conifers, or evergreens.



**Pheromones:** A hormone produced by a plant that attracts insects.

**Rhizomes:** Underground stems that are often confused with roots. These stems produce new plants in species like some Cottonwoods, Poplars, and Staghorn Sumac.

**Rust:** Fungus that causes discoloring, of leaves and causes them to fall earlier than normal.

**Samaras:** The fruit produced by Maples and Siberian Elm.

**Species:** Taxonomic classification below genus. Also, a group of individuals set apart from other species by consistent differences in morphology, ecology, or reproductive behavior.

**Spruce Gall Aphid:** Tiny sap-sucking insects that inject a growth hormone into a tree that causes the formation of little aphid homes or “galls” that can destroy the beauty and symmetry of the tree.



**Subspecies:** Taxonomic classification below species. Also, a group of individuals set apart from a species by consistent differences in morphology, ecology, or reproductive behavior.

**Suckers:** Shoots that form on the bud of a root or stem, which sometimes become invasive.

**Taxonomic:** Dealing with the description, classification, and naming of organisms.

**Test Winter:** Generally a winter much colder than usual. Some experts say a test winter occurs about once every ten years.

**Urban Pollution:** A compilation of air, water, and soil contaminants, and conditions in cities, which alters the chemical, biological, and/or physical balance that trees need to thrive. The term may also encompass soil compaction caused by paving, driving, building, etc.



**Variety:** Taxonomic classification below the level of species, which indicates morphological or genetic differences.

**Notes:**

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*deltoides* 61; *d. "Siouxland"* 62; *nigra*  
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*x. canescens* 'Tower' 32  
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*Prunus: armeniaca* var. *mandshurica* 34; *cerasus* 34;  
*maackii* 15; *m. var. canadensis* 15; *padus* 16;  
*p. 'Sharon'* 16; *serotina* 35; *virginiana* 35;  
*v. 'Canada Red'* 17  
*Pseudotsuga menziesii* var. *glauca* 55  
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*p. var. 'Lace Lady'* 39; *viscosa* 38; *x. ambigua*  
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*a. 'Fastigata'* 18; *a. 'Rossica'* 41; *decora* 42;  
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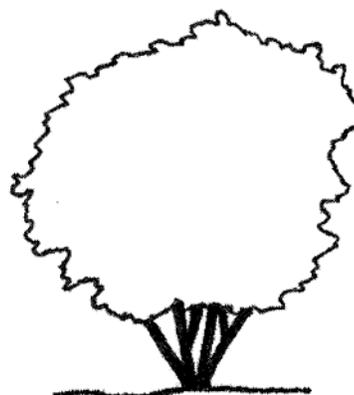
## T

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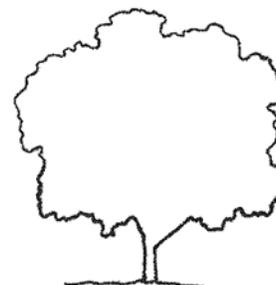
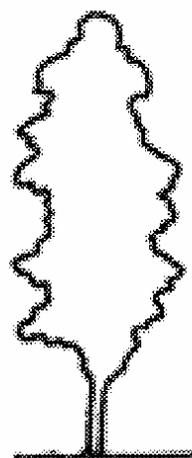


## V

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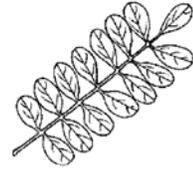
## Y

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## Townsend Tree Board

The Townsend Tree Board is a group of Broadwater County residents dedicated to improving the First City on the Missouri- One Tree at a Time! This booklet is an expanded version of "Townsend Tree Board Trees for the Townsend Area" published in 2005 by Haley Anderson and Bree Christenson, BHS Publications Class and prepared by Patrick Plantenberg, Townsend Tree Board, and Ann Prunuske, Chadwick's Nursery, Helena. For more information call Patrick Plantenberg in Townsend at 266-3911.

The Townsend Tree Board thanks Growing Friends of Helena for allowing them to use the bulk of the work they produced in publishing "Putting Down Roots", copyright 2002 by Growing Friends of Helena.



## About Growing Friends

Growing Friends is a volunteer group dedicated to planting trees in public spaces in and around Helena. Every residential and commercial neighborhood can be made more livable with the planting of trees and other landscaping.

Growing Friends offers matching grants to individuals, businesses, churches, schools, and anybody willing to help improve the Helena community. They also do planting projects on their own, where they think trees are particularly needed. Every spring they partner with neighborhoods and individuals to plant trees in the boulevards. They'll consider helping with any project in places used or enjoyed by the public.

The 400 members come from all parts of the community. They invite anyone to become a member, participate in a tree planting project, or preferably both. Contact Growing Friends at P. O. Box 709, Helena, MT 59624.





TREES FOR TOWNSEND  
A GIFT FOR FUTURE GENERATIONS  
By the BHS Publications Class and Townsend Tree Board  
December 2006