

RESOLUTION NO. 2008-14

RESOLUTION ADOPTING THE COMMUNITY FOREST MANAGEMENT PLAN

WHEREAS, the Hayden City Council adopted the City of Hayden Community Forestry Ordinance which was intended to encourage the preservation, expansion, protection, and proper maintenance of the community forest of Hayden in order to enhance the beauty of the city, by stimulating the planting and growing of desirable trees, and educating the public about the community forest; and

WHEREAS, the Hayden City Council Adopted the 2008 Comprehensive Plan Update which calls for a community forest management plan that looks five, ten and fifteen years into the future.

WHEREAS, long-term management of Hayden's community forest is consistent with the Hayden Community Forest Ordinance and the Hayden Comprehensive Plan; and

WHEREAS, the Community Forestry Commission, with the participation of Hayden citizens, has prepared a Community Forest Management Plan that they have recommended to be adopted by the City Council to guide long-term community forest activities within the City.

NOW, THEREFORE, BE IT RESOLVED, by the Mayor and City Council of the City of Hayden, Idaho, as follows:

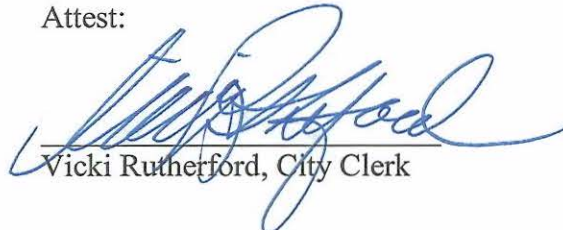
That the Hayden City Council hereby adopts the Community Forest Management Plan attached hereto as Exhibit A effective the date of this Resolution.

PASSED by the City Council this 9th day of December, 2008, and approved by the Mayor this 10th day of December, 2008.




Ronald B. McIntire, Mayor

Attest:

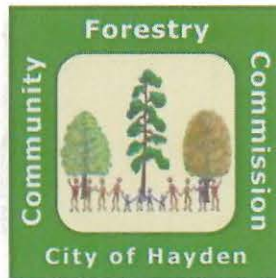

Vicki Rutherford, City Clerk

Hayden Community Forest Management Plan

**Prepared by the
Hayden Community Forester
For the
Hayden Community Forestry Commission**

**Approved by the Hayden Community Forestry Commission
August 28, 2008**

**Adopted by the Hayden City Council
Resolution XXX-2008
December 9, 2008**



Hayden Community Forestry Program Overview

The Hayden Community Forestry Program is designed to expand, maintain, and preserve the city's community forest, today, and as the city grows. Through stewardship projects, the program aims to stimulate investment in the community forest by citizens, businesses, and government agencies to better the community. A long term goal is to establish a healthy community forest with a thirty percent (30%) canopy cover.

The Hayden Community Forestry Program includes an educational component tasked with providing information to Hayden residents regarding tree value, tree stewardship, the Community Forestry Ordinance, and the Tree Standards Manual.

Trees on city property and within public rights-of-way will be managed to maximize public benefit, while minimizing risk. Tree planting, pruning and removal operations will be conducted in accordance with guidelines defined in the Hayden Tree Standards Manual.

The Hayden Community Forest Management Plan will serve as the guiding document for the development and implementation of a community forestry program in Hayden, including the Community Forestry Ordinance and the Tree Standards Manual. The management plan will be consistent with the City of Hayden Comprehensive Plan, as updated from time to time.

Trees on city property and in rights-of-way will be periodically inventoried. Initially, there will be six management areas, or routes, throughout the city. As the city grows beyond its current boundaries, additional routes will be added. The initial street and park tree inventory was completed in 2003.

Hayden Community Forestry Management Plan

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HAYDEN COMMUNITY FORESTRY MANAGEMENT PLAN

1.0 INTRODUCTION

1.1 Purpose

This plan will serve as a guide to effectively manage and maintain the Hayden Community Forest, composed of trees along streets, within parks, and upon other publicly owned land. It will give citizens of Hayden, community decision makers, and city staff a set of recommendations to accomplish objectives of this plan. The management plan will be consistent with the goals and objectives of the Hayden Comprehensive Plan, as updated from time to time.

1.2 Vision & Mission

Vision

The City of Hayden envisions a healthy, sustainable community forest, which is an economic asset and source of community pride. The residents of Hayden also envision a stable funding source to implement the community forestry program.

Mission

The City of Hayden, strives to balance city growth and development with preservation and enhancement of the community forest by overseeing a sustainable stewardship program, which will enhance our community's quality of life.

In five years, the City of Hayden anticipates:

- An established, stable funding source for a basic street tree program.
- A well documented assessment of the community forest canopy.
- A well established community forestry education program.
- A street tree canopy cover of ten percent. The current street tree canopy cover is estimated at less than one percent

In ten years, the City of Hayden anticipates:

- A well established, stable funding source for an enhanced street tree program.
- Direct and indirect community economic benefit from the street tree canopy.
- A street tree canopy cover of twenty percent.

In fifteen years, the City of Hayden anticipates:

- A street tree canopy cover of thirty percent.

1.3 History

The Hayden Community Forestry Program came about because Jack O'Brien had a dream. As a long-term Hayden resident, Jack felt strongly about preserving the beautiful trees that contribute so much to the city's character. In 2000, he gained the support of the city and set about finding a group of volunteers to start the Community Forestry Program.

The initial group of volunteers had several tasks, including the formation of a committee, writing a tree ordinance, producing a tree manual, developing a budget, inventorying trees on city property and rights-of-way, creating a searchable data base, writing a forest management plan, conducting Arbor Day celebrations, devising tree planting plans, and becoming a Tree City USA.

On December 16, 2002, the City Council adopted City Ordinance 333, creating a Community Tree Commission to provide the Council with advice on community forestry related issues. Staff was added to the program in 2005 to manage day-to-day activities.

The needs of the community forest are not constant. This management plan is designed to grow and flex as the community forest dynamics changes.

2.0 COMMUNITY FORESTRY COMMISSION

2.1 Establishment

The Hayden Community Forestry Commission receives its authority through Chapter 2-2 of the Hayden Municipal Code, established by Ordinance 333 of the City of Hayden on December 16, 2002.

2.1 Duties and Limitations

The Hayden Community Forestry Commission is authorized and charged to carry out several tasks including assisting in the completion of a periodic inventory; advise in the preparation of a management plan; as requested, inspect city trees and provide recommendations; recommend city activities related to community forestry when requested; identify training needs and develop appropriate training programs; coordinate its activities with city staff; prepare and distribute promotional information relating to community forestry; plan and conduct community forestry observances such as Arbor Day; and assist in locating outside monies for community forestry work.

The Hayden Community Forestry Commission serves as an advisory committee to the Mayor and City Council.

3.0 COMMUNITY GOALS AND OBJECTIVES

3.1 GOAL: *A complete inventory the Hayden community forest.*

Objectives:

1. Develop a public tree inventory database based upon a blockside format.
2. Provide the resources necessary to complete the inventory.
3. Determine the number of viable public planting locations in Hayden.
4. Determine the number of existing public trees and their condition.
5. Participate in the Idaho Department of Lands City-GREEN community canopy inventory project.

3.2 GOAL: *Establish a stable funding source.*

Objectives:

1. Budget at least \$10 per parcel per year.
2. Implement budget policies directing funds towards a community tree program.
3. Explore and pursue grants and other funding mechanisms from public and private sources to support tree-related activities.

3.3 GOAL: *Establish a basic community tree program.*

Objectives:

1. Develop and implement a planting program to install 300 street trees per year.
2. Select trees appropriate to specific sites. Use natives where appropriate.
3. Target a street tree canopy cover of 10% after five years.
4. Develop and implement a formative pruning program for existing young trees and newly planted trees.
5. Develop a staff training program on best management practices for tree planting and formative pruning.

3.4 GOAL: *Maintain a diverse community forest.*

Objectives:

1. Compile & distribute a list of approved tree species and their appropriate use.
2. Implement species diversity requirements.
 - a) No more than 10% of a single species.
 - b) No more than 20% of a single genus.
 - c) No more than 30% of a single family.

3.5 GOAL: *Balance development needs with the biological needs of trees.*

Objectives:

1. Develop preservation and protection standards for trees during development and construction projects.

2. Actively enforce community tree preservation and protection requirements.
3. Develop a staff training program on preservation and protection techniques.
4. Promote tree preservation and planting opportunities in the community development and planning processes.
5. Implement a planting to removal ratio of at least 5:1

3.6 GOAL: *Provide community forestry leadership through public education and outreach.*

Objectives:

1. Maintain an up-to-date urban forestry library, available to the public.
2. Maintain a community forestry page on the City of Hayden web site.
3. Distribute printed materials to target audiences and conduct educational workshops on proper tree planting and maintenance.
4. Fully participate in the Community Canopy Program.
5. Develop and implement an urban forestry curriculum for K-12 students.
6. Emphasize the functionality of community trees.
7. Organize annual Arbor Day Celebration.
8. Maintain Tree City USA status.

4.0 MANAGEMENT PLAN IMPLEMENTATION STANDARDS

It is the policy of the Community Forestry Commission to use the standards and procedures referenced here.

4.1 Community Forestry Standards

As required by the Hayden Community Forestry Ordinance, the Hayden Community Forestry Commission developed, and City Council adopted by Resolution No. 2004-09, the Hayden Tree Standards Manual as a guide to the best management practices in caring for Hayden's community forest. The manual addresses tree selection, tree planting and tree care, and provides a list of trees suitable for planting on city property and rights-of-way. The Hayden Trees Standards Manual will be updated from time to time to facilitate the implementation of the Community Forest Management Plan.

4.1.1 Planting Trees

Planting techniques, site selection and species selection for trees on city property and rights-of-way will be consistent with current ANSI Z60.1 Nursery Standards, ANSI A300 Planting Standards, and International Society of Arboriculture planting best management practices, as defined in the Tree Standards Manual.

Tree spacing shall be based upon 75% of the expected mature canopy width.

4.1.2 Pruning Trees

Pruning trees on city property and rights-of-way will be conducted in accordance with the current ANSI Z133.1 Safety Standards and ANSI A300 Pruning Standards, as defined in the Tree Standards Manual. Permits are required for major pruning work. Major pruning work shall be conducted under the direct supervision of a certified arborist as required by the Community Forestry Code.

Trees on private property shall be maintained so they do not pose a risk to public safety, or harbor injurious plant pests that may affect the community forest.

Formative pruning shall be provided two and seven years after planting. The first permanent limbs shall be ten feet along roadways and over parking lots, and eight feet on park sites and other public property.

4.1.3 Removing Trees

Removing trees on city property and rights-of-way will be conducted in accordance with the current ANSI Z133.1 Safety Standards and ANSI A300 Pruning Standards, as defined in the Tree Standards Manual. Removing trees on city property and rights-of-way requires approval of the City Administrator. Permission to remove a tree will be granted if the tree is dead, dying, diseased, structurally unsound, or inhibits all economically viable uses of a privately owned parcel.

Tree removal will be completed in a manner that prepares the site for replacement trees.

Removed trees will be replaced on a basis of one replacement tree per five inches of removed tree diameter, with up to a maximum of five replacement trees required.

4.2 Risk Management

Trees are living organisms, and by nature, have a level of risk associated with them. The management of community trees will be done in a manner that reduces their risk to the public.

4.2.1 Risk Identification

Trees on public property, trees within the public right-of-way, and trees on private property impacting public property or rights-of-way, will be inventoried on a periodic basis. Those trees that exhibit characteristics or

conditions that increase the risk of failure will be identified for more thorough evaluation.

City staff may encounter high risk trees during normal maintenance operations. Trees exhibiting characteristics or conditions that increase the risk of failure will be reported to the City Administrator. City staff will be trained to identify such characteristics and conditions.

The public has a responsibility to report trees with characteristics or conditions that increase the risk of failure. Trees exhibiting characteristics or conditions that increase the risk of failure will be reported to the City Administrator.

4.2.2 Risk Assessment

Those trees reported as having characteristics or conditions that increase the risk of failure will be evaluated in a timely manner.

Risk will be assigned based upon a modified International Society of Arboriculture 12-point rating system. Each component value will have a maximum of 4 points, for a total of 16 points. The four components of the rating system include:

- a) Target Value. The value assigned to an object onto which the tree or tree part will fall.
- b) Tree Part Value. The value assigned based upon the size of the part at risk of failure.
- c) Failure Value. The value assigned based upon the likelihood of failure.
- d) Frequency Value. The value assigned based upon the occupancy of a potential target.

A total risk value of 1 point is the lowest possible rating for a tree. A total risk value of 16 points is the highest possible rating for a tree. Rating values should not be considered absolute. The circumstances for each tree must be considered when determining appropriate corrective measures.

4.2.3 Risk Abatement

High risk trees will be addressed in a timely manner. In general, trees assigned a higher risk assessment value shall have priority over trees with a lower risk assessment value.

Pruning consistent with the ANSI A300 standards should always be the first consideration when abating risk. The level of pruning should be commensurate with the long-term prognosis for the tree.

Mechanical support systems, such as cabling and bracing, are reserved for high value trees.

Removal shall be considered the last resort abatement action for a tree. When a tree is removed, a replacement tree shall be planted.

Topping may be used in a make-safe situation where the tree will be removed at a later date.

4.3 Planned Community Forest

The City of Hayden is committed to achieving a community forest with 30% canopy cover in 15 years. It is intended that public and private trees will make up this community forest.

4.3.1 Public Trees

To accomplish a 30% canopy cover over public rights-of-way, parks and other public properties in 15 years, an organized planting program must be established. Focus planting activities in areas where space is available and along streets with the largest expanses of pavement. Use bare root trees to reduce per tree costs and maximize number of trees planted. Use larger canopied Type II and Type III trees for maximum canopy cover, unless site constraints call for smaller Type I trees.

Use the Adopt-A-Tree program as a tool to plant trees in specific neighborhoods, or on specific public properties.

4.3.2 Private Trees

To accomplish a 30% canopy cover of private property, foster planting through education. Emphasize the benefits of shade trees to homeowners. Emphasize that the benefits of shades trees outweigh the costs of maintenance.

Enhance tree planting requirements associated with development activities.

4.3.3 Tree Lists

Maintain an up-to-date list of trees suitable for use in Hayden. Add and remove trees from the list on a periodic basis as new trees come onto the market. Make the list readily available for use by residents and homeowners.

4.3.4 Quality of Trees

Emphasize the quality of tree stock to residents and homeowners. Use educational opportunities to emphasize planting quality tree stock.

Maintain a collection of photographs showing the pitfalls of poor tree stock.

4.4 Preservation of Community Trees

The City of Hayden embraces efforts to preserve both public and private trees, while at the same time, maintaining the health of the community forest.

4.4.1 Preserving Public Trees

Trees retain their vigor and vitality when properly protected during construction projects. The preservation and protection of a tree's root system is the most critical component of a preservation program. Enhance preservation and protection requirements associated with construction projects affecting public trees. Update existing ordinances and manuals to include current preservation and protection techniques.

4.4.2 Preserving Private Trees

Foster the preservation of private trees through education. Enhance tree preservation and protection requirements associated with development activities.

4.5 Wildland Interface

The City of Hayden community forest interfaces with the wildland forest along its eastern boundary. The City of Hayden understands the need to be vigilant against wildland fires advancing into the urban area.

4.5.1 Lead Agency

The Northern Lakes Fire District serves as the lead agency for fire safety education in the Hayden area. As the lead agency, all community forest wildland interface educational efforts will be coordinated through the Fire District.

5.0 COMMUNITY FOREST FUNCTIONS

5.1 Economic Functions

The community forest is an economic asset to the community. A typical, healthy and sound mature tree can have a value ranging from \$2,500 to over \$10,000. The value of a tree is determined by a number of factors such as species, size, location, function and condition. When considered as a whole, the community forest can represent an asset worth millions of dollars.

The valuation of trees is conducted using industry protocols in the *Guide for Plant Appraisal*, 9th Edition, that satisfy basic legal and accounting requirements. Three methods are typically used during tree valuation, including the income method, the market method, and the cost method. The income method determines tree

value based upon future economics gains, and is typically used for crop trees or forest trees. The market approach looks at the increase in economic value to a parcel without a tree, and then again with a tree; the difference being used to determine value. The cost method typically determines tree value by the area of the trunk 4.5 feet above ground level.

To maintain its value, the community forest must receive periodic care. The net economic value of the community forest is determined by the ratio of the costs to the benefits. Typical cost benefit ratios in a hypothetical northern mountain and prairie community range from 1.13:1, 1.59:1, to 2.29:1 for small, medium and large trees, respectively. For each \$1 spent on a small tree, the benefit is \$1.13, or a 13% return on investment. For each \$1 spent on a large tree, the benefit is \$2.29, or a 129% return on investment. As tree care diminishes, the tree value goes down, and the return on investment diminishes.

5.2 Environmental Functions

Community trees serve a number of environmental functions. These functions must be considered when determining the economic benefits of a tree.

5.2.1 Soil Retention

Trees assist in soil retention and erosion control primarily by intercepting falling rain. The leafy canopy intercepts and diffuses rain drops, allowing the water to fall to the ground at a lower velocity.

Tree roots also assist in soil retention by forming a dense mat of feeder roots. These small roots act as a binding agent for soil particles.

5.2.2 Stormwater Retention

Trees assist in stormwater retention primarily by absorbing falling rain. The leafy canopy intercepts rain drops. A portion of the rain water adheres to the leaf surfaces, while another portion is absorbed by the bark. The rain water is released into the soil at a much slower rate, allowing the water to percolate into the soil, rather than running off rapidly.

Leaf litter under a tree also absorbs rain water. The water that does not pass through is used by decay organisms, or evaporates.

5.2.3 Air Quality

Trees remove both solid and gaseous pollutants from the air. Solid particulate pollutants adhere to leafy surfaces and to rough bark surfaces. The particulate is washed from the tree by rainfall.

Gaseous pollutants are captured by leaves during the processes of photosynthesis and respiration. The gasses are adsorbed the cells inside of

the leaf. While beneficial to the environment, the adsorption of gaseous pollutants can cause leaf damage.

5.2.4 Ambient Air Temperature

Trees assist in moderating ambient air temperatures in two ways; first, through shading, and second by evaporative cooling. By shading surfaces such as paving, the trees limit solar gain. This reduction in solar gain reduces the ambient air temperature. The temperatures above exposed paving can be 15 to 20 degrees hotter than in shaded areas and form what is termed a “heat island”. The heat from these islands drifts into surrounding areas, raising the ambient air temperature.

Trees also help cool the air by evaporative cooling. As trees respire, they release water vapor into the air. The water cools the surrounding air.

By reducing heat island and reducing ambient air temperature, trees reduce air conditioning costs. Scientific studies have shown that for every degree in ambient air temperature reduction, there is a 2.5% reduction in cooling costs. An ambient air temperature reduction of 10 degrees would yield a 25% reduction in air condition costs.

Strategically planted evergreens reduce winter heat loss by breaking the wind. The reduction in wind speed reduces heat loss from the surface of a building. A reduction in heat loss equated to lower heating costs.

5.2.5 Wildlife Habitat

Trees provide habitat for wildlife. These animals enhance the recreational and educational opportunities of the community. Corridors of trees and other vegetation connecting natural areas in the urban environment add to the wildlife habitat and increase wildlife diversity.

5.3 Infrastructure Functions

5.3.1 Pavement Preservation

Asphalt pavement is primarily degraded by three factors, abrasion, hardening, and expansion and contraction. Abrasion occurs when vehicles travel on the asphalt surface. Hardening occurs when volatile compounds in the oil evaporate, causing the asphalt to become brittle and leading to cracks. Expansion and contraction occurs as the asphalt is heated during the day and cooled at night, causing cracks to form. The latter factors allow water to enter the paving base, causing the roadway to fail.

By casting shade over the roadway, trees cool the asphalt paving surface. By cooling the asphalt, volatile compounds do not readily evaporate, nor

does the pavement substantially expand and contract. Because older trees have larger canopies and cast more shade, older trees provide more benefits than small saplings.

5.4 Socio-Economic Functions

Trees serve numerous socio-economic functions in the community. These functions often include aesthetics, public safety, retail preferences, real estate preferences, psychological, human health, and noise attenuation.

5.4.1 Aesthetics

Community trees add color, texture and form to the landscape. They soften the straight lines of urban development. Studies have shown that trees are the single most positive influence of scenic quality.

5.4.2 Public Safety

Community trees create an inviting environment for residents. When residents congregate in an area, crime drops. Conversely, areas devoid of trees tend to keep people away, which lead to higher crime rates. Studies indicate that community trees have a moderating effect on personal interactions.

5.4.3 Retail Preference

Consumer studies have shown that shoppers favor treed settings and shaded parking lots. Shoppers stay longer and spend more money at well landscaped businesses.

5.4.4 Real Estate Preferences

Buyers prefer homes with multiple trees and tree lined streets. Studies undertaken by the National Association of Realtors indicate buyers are willing to pay 3-7% more for homes on treed lots. All things being equal, a home on a tree lined street will sell faster than on a barren street.

5.4.5 Psychological

Studies indicate that humans gain substantial pleasure from trees. Views of trees from the home or office tend to reduce mental fatigue. Planting trees can form bonds within a community. Community trees create a setting for relaxing recreational activities.

5.4.6 Human Health

Community trees have the ability to reduce stress levels. Studies indicate that drivers on tree lined streets have reduced stress levels than those drivers on barren streets. Reduced stress levels improve outlook and immune system response. Shade reduces exposure to ultraviolet light, reducing the potential for skin cancers.

5.4.7 Noise Reduction

Trees tend to absorb higher noise frequencies. These are the frequencies that tend to be more distressing to humans.

6.0 CHALLENGES AND LIMITATIONS

There are three basic challenges to implementing a successful community forestry program: determination; funding; and, follow-through.

6.1.1 Determination

The implementation of a community forestry program may impact some portions of the community more so than others. It will require the implementation of rules and regulations that may not be popular with all segments of the community. And finally, the rules and regulations may affect some property rights.

6.1.2 Funding

Successful community forestry programs have stable funding sources. Trees must not be considered as an amenity. They must be considered an integral component of the urban infrastructure.

6.1.3 Follow-through

The successful implementation of a community forestry program depends on consistent follow-through over time.

6.1.4 Limitations

Until such time that existing ordinance is updated to reflect this master plan, they are the law and supersede the recommendations of this master plan.

7.0 PERIODIC UPDATE

The Hayden Community Forestry Commission will periodically review the Hayden Community Forest Management Plan, and forward recommended changes to the City Council.

8.0 REFERENCE MATERIAL

Council of Tree and Landscape Appraisers. 2000. *Guide for Plant Appraisers*, 9th Edition. International Society of Arboriculture. Champaign, Illinois

Key, Lisa D., et. al. 2008. *2008 Comprehensive Plan Update*. City of Hayden. Hayden, Idaho.

McPherson, E. Gregory, James R. Simpson, Paula J. Pepper, Qingfu Xiao, Scott E. Maco, Phillip J. Hoefer. 2003. *Northern Mountain and Prairie Community Tree Guide: Benefits, Costs and Strategic Planting*. Center for Urban Research, USDA Forest Service, Pacific Southwest Research Station. Davis, California

Vargas, Kelaine E., E. Gregory McPherson, James R. Simpson, Paula J. Pepper, Shelley L. Gardener, Qingfu Xiao. 2007. *Temperate Interior West Community Tree Guide: Benefits, Costs and Strategic Planting*. USDA Forest Service, Pacific Southwest Research Station. Albany, California