# MEADOWBROOK FARM MASTER PLAN

Adopted 1999 by the Cities of Snoqualmie and North Bend

Updated 2013

Snoqualmie Resolution 1227, North Bend Resolution 1639

# Preface

Meadowbrook Farm is a 462-acre historically significant open space property located within and jointly owned by the cities of North Bend and Snoqualmie. The objective of this Master Plan is to provide guidance for the long-term management and improvement of Meadowbrook Farm based upon relevant legal, funding, environmental, archaeological, recreational, and community concerns.

Acknowledgements

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Cover photo courtesy of the Snoqualmie Valley History Museum, Dave Battey

# Table of Contents

**Chapters**

Preface

Chapter 1 – Executive Summary

Chapter 2 – Existing Conditions

Chapter 3 – Use and Development Plan

Chapter 4 – Landscape Management Plan

Chapter 5 – Management Plan

**List of Figures**

| | | |
|---|---|---|
| A. | Vicinity Map | 1-6 |
| B. | Regional Context and Funding Sources for Acquisitions | 1-7 |
| C. | Land Use Plan | 3-10 |
| D. | Interpretive Center Area Site Plan | 3-11 |
| E. | Interpretive Center Interior Layout | 3-12 |
| F. | Planned Trail System | 3-13 |
| G. | Site Maintenance Plan | 4-12 |
| H. | Soils Map | Soils Appendix |
| I. | Hydrology Map | Hydrology Appendix |
| J. | Plant/Habitat Communities Map (Wetlands) | Habitat Appendix |

**Appendices**

A. Preservation Association Development/Management Philosophy
B. Meadowbrook Farm Use and Operation Rules
C. Soils Map Information
D. Hydrology Map
E. Habitat/Plant Community Information

## Executive Summary-Recommended Management Plan

## 1.A Introduction

The Snoqualmie Prairie, upon which Meadowbrook Farm is located, has been maintained as a managed living landscape for over 5,000 years. Containing over 460 acres of open prairie, agricultural land, scrub-shrub and forested habitat areas, the property that now comprises Meadowbrook Farm provides a continuing link to this ancient landscape and a connection to the natural world.

Meadowbrook Farm is an important component of an Upper Snoqualmie Valley park, recreation and open space system, which preserves scenic, wildlife and open space amenities and archaeological resources for the City of Snoqualmie, the City of North Bend, King County and the State of Washington. As the Cities grow and urbanize, preservation of open space urban separators, including Meadowbrook Farm, is of critical importance in maintaining a sense of the historic landscape and way of life in the Upper Snoqualmie Valley. This plan guides the development and management of Meadowbrook Farm, to ensure that this living landscape and historic and natural treasure will be enjoyed for generations to come.

## 1.B Mission and Brand Statements

The objective of the Meadowbrook Farm Preservation Association in preparing and updating this Master Plan is to identify how the site can be managed to optimize its environmental, cultural and recreational benefits for future generations. To encapsulate these ideas, the following mission statement was adopted by the Meadowbrook Farm Preservation Association on July 9, 1997:

> ***Our mission as stewards of Meadowbrook Farm is to guide the uses of these lands in a way that preserves and enhances their scenic, historic and agricultural assets, while providing public education and recreational opportunities.***

In early 2012, a task force was formed to develop a branding statement to guide both an update of the Master Plan and an update of the Interlocal Agreement among the cities and the Meadowbrook Farm Preservation Association. The purpose of the branding effort was to 1) enhance marketing of the Farm to the appropriate users; and 2) to unify direction by the Cities and the MFPA in regard to use of the Farm, including opportunities to enhance revenues from the Farm.

The following brand statement was approved by both cities in September, 2012:

> ***Meadowbrook Farm is the scenic natural outdoor recreation and event venue for the Puget Sound Area.***

Both the 1997 Mission Statement and the 2012 Brand Statement are reflected in this updated Master Plan.

## 1.C Background

Between 1989 and 1996, the properties comprising Meadowbrook Farm were purchased using North Bend, Snoqualmie, King County Conservation Futures, and State Interagency Committee for Outdoor Recreation funds. Snoqualmie Valley Land Company made a significant contribution by discounting the purchase price from the appraised value.

Much of the fund raising and planning for future use of the property was accomplished through the efforts of a task force comprised of representatives of both owner cities, the Trust for Public Land, the Mountains to Sound Greenway Trust, King County, Snoqualmie Valley School District, Snoqualmie Valley Historical Society and other involved citizens. A non-profit organization, the Meadowbrook Farm Preservation Association, was formed to assume land stewardship, public education, and facilities development, maintenance, management, and operations.

## 1.D Site Use Constraints from Funding Sources

Because Meadowbrook Farm was purchased using public dollars from King County Open Space Conservation Futures Bond Funds, as well as grant funds from the Washington State Interagency Committee for Outdoor Recreation (now the Recreation Conservation Office), a number of site use constraints apply to the property to protect the long-term preservation and public benefit interests of the agencies administering these funds. These constraints are reflected in this Master Plan.

## 1.E Proposed Uses

The foregoing Mission Statement and Brand Statement are reflected in the major categories of uses programmed for the site which include:

- Trails and recreation
- Community gatherings and special events
- Education and interpretation of natural and cultural history
- Meadow/prairie maintenance (including viewshed maintenance)
- Limited agriculture
- Wildlife habitat preservation and enhancement

## 1.G General Management and Development Concepts

The most striking visual characteristic of Meadowbrook Farm is its large, central open meadow, framed by forest. Views of this meadow are seen by hundreds of people every day as they pass through the farm on State Highway 202. Views of Mount Si across the central meadow are particularly striking. Over the last several thousand years, the site was periodically burned to maintain meadows. In more recent history, this and other meadow areas were maintained by mowing, grazing and hops growing. The central meadow edge provides habitat and a migration corridor for wildlife. Elk, deer, coyote and migratory birds all use the site in large numbers when moving through the upper Snoqualmie Valley.

Elk, in particular, have developed a resident sub-herd on Meadowbrook Farm and have become a character-defining feature of the property.

The fundamental management strategy is to maintain Meadowbrook Farm in a manner that will maintain its prairie heritage. This is currently accomplished through regular mowing and/or haying to prevent the rapid transformation of meadow areas to shrub and tree landscape. Without continued maintenance as recommended in this plan, the forest edges will gradually encroach on the meadows and the site will have less and less meadow over time.

Human use of the site has been planned by the Meadowbrook Farm Preservation Association to provide a high quality sense of the natural and cultural landscape and link to past uses of the area while maintaining the major visual, wildlife, and recreation benefits of the site. This has been achieved through careful planning based on numerous site visits, and detailed inventory and mapping of site, including wetlands, vegetation, archaeological and cultural features, and hydrology. This inventory and analysis work was utilized to identify unique opportunities of specific locations and capacity each area of the site has to support use by humans and wildlife.

Most of the site is intended to be preserved or visually enhanced through vegetation management. Meadow areas will be managed to retain their open prairie character and to provide edges and clearings for wildlife. Meadows may be maintained through a combination of mowing, grazing, agricultural use, and recreation and events. Forest areas will return to a climax forest of stately old growth Cedar and Hemlock. Forests will not be managed intensively, but in some areas replanting will encourage the transition to old growth. In wetlands and other critical/sensitive areas, access will be limited to needed maintenance and periodic documentation. This includes areas defined by current Critical Areas Ordinances and wetland mitigation/restoration areas.

This Master Plan recommends varying levels of public access, wherein the property is divided into areas for which use and level of public access varies according to environmental sensitivity, cultural and archeological sensitivity, functional appropriateness, and continuation of the legitimate purposes of the property. The system also recognizes that while Meadowbrook Farm is planned as a place of many uses, not all uses can be reasonably or efficiently undertaken on all parts of the property simultaneously.

General public park areas such as picnic fields, forests, trailside areas, etc. are open to public access with normal rules and responsible behavior. However, some areas will intentionally not be accessible by trails so that people are not invited into them; allowing them to be “left alone.”

Intensive human-oriented uses will be concentrated near the interpretive center area or in other appropriate areas in order to preserve the natural character over as much of the site as possible.

Interpretive Center

The interpretive center is a simple four-season building with space for meetings, classes, retreats, etc., available for use by the general public by reservation. This center also provides restrooms and limited equipment storage. Access to the interpretive center is from Boalch Avenue. This provides safe access

from a low speed road of rural character. Signs direct visitors from the State Highway to this point. The interpretive center has ample parking for daily use, with additional field parking and field event area for the approved events. Larger events may require off-site parking.

Trails

A system of trails for non-motorized use by pedestrians, equestrians, and bicyclists is planned. Trails should be designed for low speed use in order to assure the mutual safety of all users and the contemplative environment of the Meadowbrook Farm property. The trails will start at the interpretive center, loop through the site's public access and permit event areas, and connect to important off site features, including King County's Snoqualmie Valley Trail, schools, Northwest Railway Museum history center, and nearby open spaces including King County's Three Forks Natural Area, Centennial Fields Park in Snoqualmie and Tollgate Farm Park in North Bend. Trails will form a framework for interpretive signage to highlight the natural and cultural history of the Farm property. Some trails will be designed to be accessible by wheelchair.

Meadow and Field Areas

The closely mowed fields, or public event areas, will be open to public use except when under permit for events. Primary areas for events include the Interpretive Center Events field, the Central Meadow, the Greenchop Area/Events Fields, and potentially the Boy Scout Island/West Meadow, using existing on-site parking and off-site parking at Snoqualmie Elementary School, the Mt. Si Freshman Campus (former Snoqualmie Middle School), and at Snoqualmie's Centennial Fields Park. For some events, off-site parking with shuttle service may be required.

Development, Use and Management Considerations

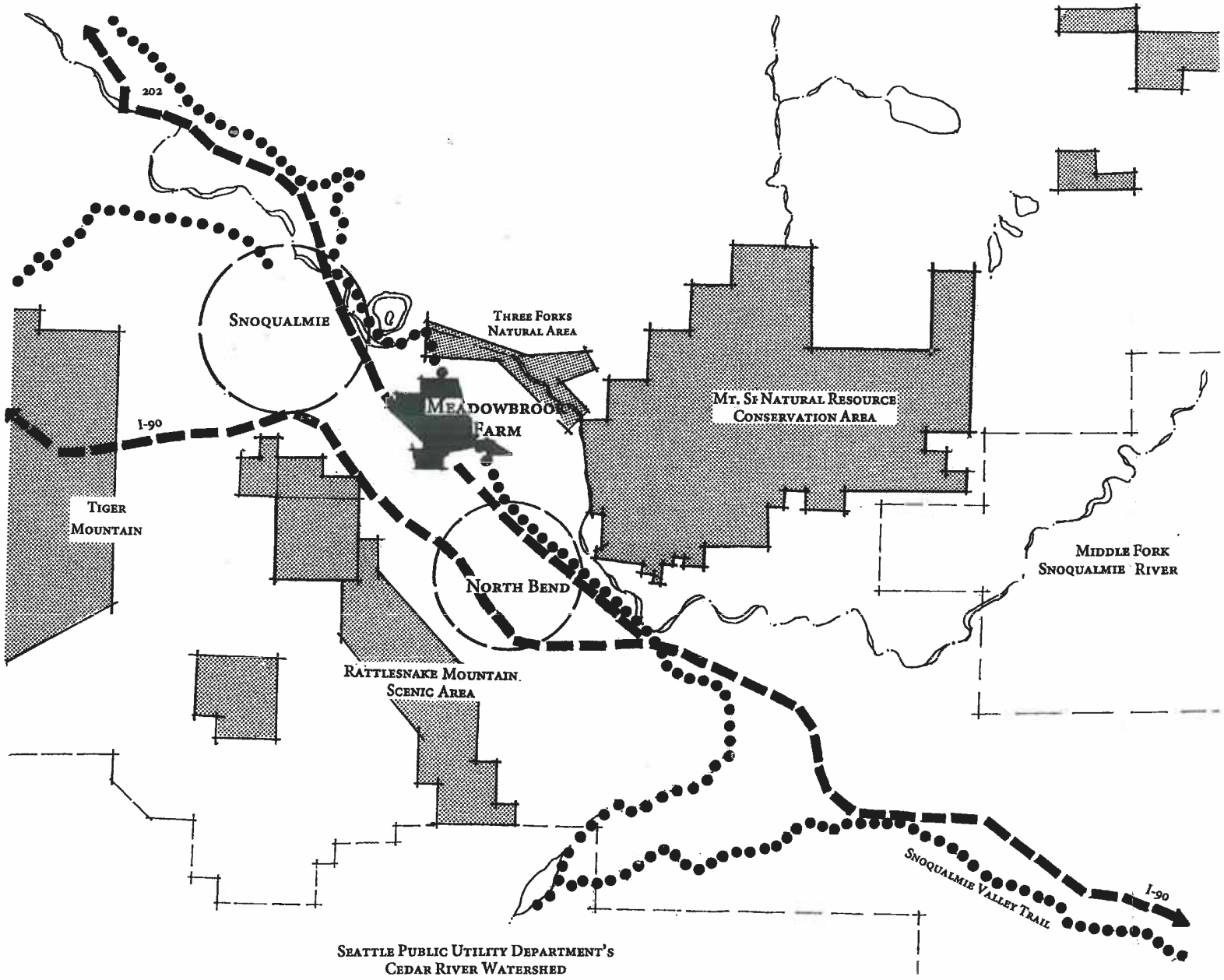
Since one main emphasis for the site is to preserve and showcase its historic, natural and visual attributes, some typical "park like" activities, while allowed, will not be supported with extensive facility development. For example, in response to constraints contained in the funding documents, informal active recreation may be accommodated on the central meadow but permanent athletic fields will not be developed. River access is also an activity that will not be emphasized since nearby facilities, such as the King County Three Forks Natural Area, have higher inherent capability to support this use.

One of the challenges considered in the following Master Plan is how to preserve the character of the central open meadow portion of the site. Meadow enhancement in extent and diversity is strongly recommended. For example, mowing with a managed seeding program would allow some wildflower development. The objective is to use a variety of landscape management options will maximize educational, visual and wildlife benefits and can reflect historic and prehistoric management techniques from different periods.

Active agriculture may be continued to reflect Meadowbrook Farm's centuries-long use as a managed agricultural landscape. Areas designated for active agricultural uses shall be consistent with the intent of this plan to preserve the site's visual and historic landscape character, as well as legal constraints.

Agriculture areas may be managed under use agreements. These areas may be posted or fenced to exclude inappropriate public access, but may be interpreted by signage, accessed by Cities' or Meadowbrook Farm Preservation Association staff, or accessed as specified in use agreements for educational purposes. Use agreements for agriculture shall not empower users to permit public or private uses on any part of the farm other than stated agricultural or maintenance activities.

One major planning and management goal is to provide the visitor in the meadow areas with an experience of "living history" by emphasizing views of timeless features such as Mt. Si and old growth forest, while meadows managed with ancient practices lie underfoot.

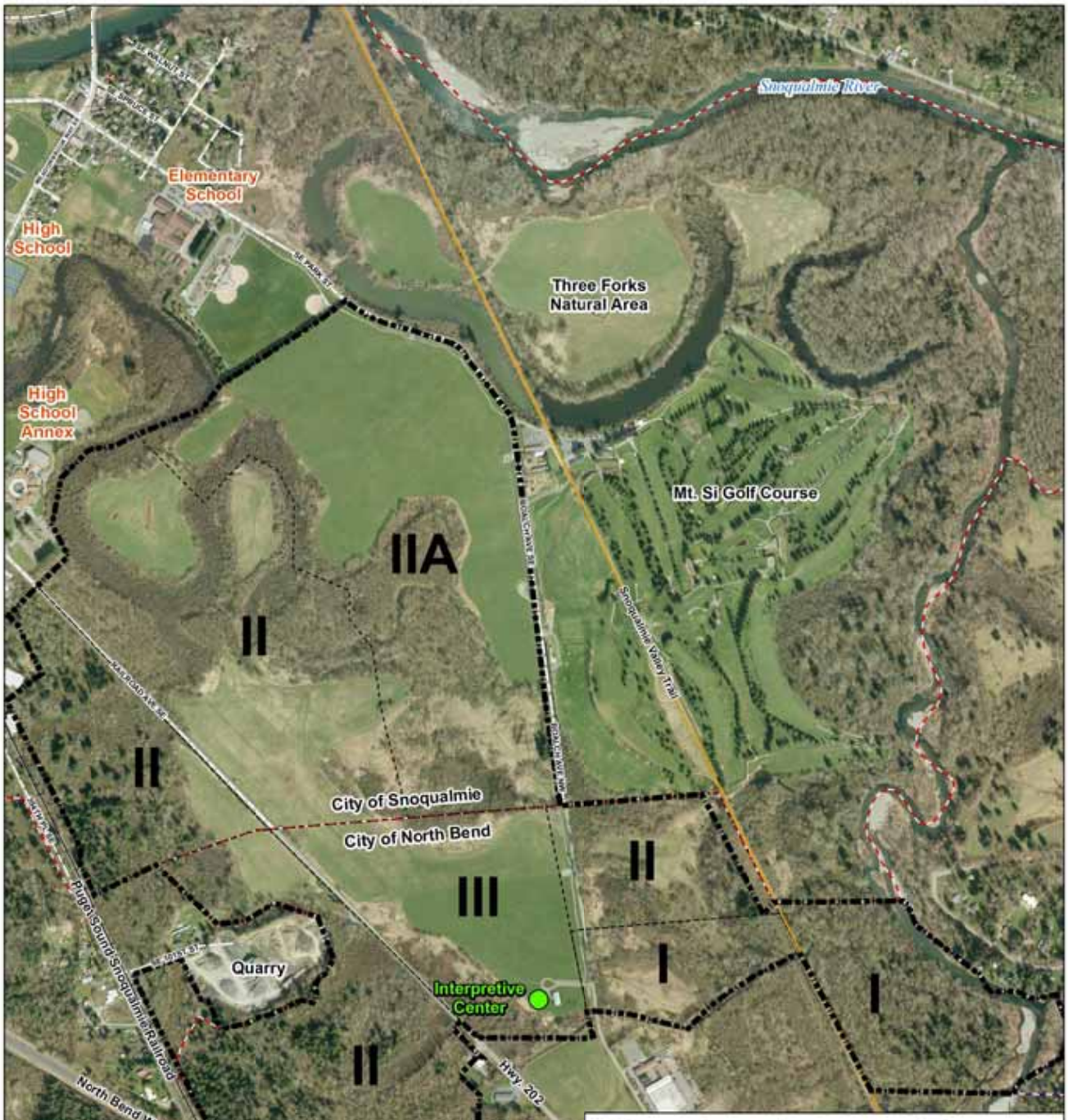



**Meadowbrook Farm**
Cities of Snoqualmie
and North Bend, WA
RCA/Huitt-Zollars

Not to Scale

NORTH

Figure A
Title
**Vicinity Map**




# Meadowbrook Farm

## Cities of Snoqualmie & North Bend, WA

**Legend**

- Railroad
- Snoqualmie Valley Trail
- City of Snoqualmie
- City of North Bend
- Meadowbrook Farm Boundary
- Phase Areas

**Oct. 8th, 2013**

**1 inch = 700 feet**

**Figure B**
**Regional Context and Funding Sources for Acquisitions**

N W E S

All users of the data shall be advised that the map features are approximate and are intended only to provide an indication of said feature. Additional areas that have not been mapped may be present. THIS IS NOT A SURVEY. The City of Snoqualmie assumes no liability for variations ascertained by an actual survey. ALL DATA IS EXPRESSLY PROVIDED 'AS IS' AND 'WITH ALL FAULTS'. The City makes no warranty of fitness for a particular purpose. This disclaimer shall be present on all paper map products and shall be included in the terms of use for this data in a web or software system.
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FUNDING SOURCES FOR MEADOWBROOK FARM

| SITE USE CONSTRAINTS FROM FUNDING SOURCES | APPLY TO PHASE/AREA | | | |
|---|---|---|---|---|
| | I | II | IIA | III |
| King County Conservation Futures | X | X | X | X |
| Washington Interagency Committee for Outdoor | X | X | | X |
| King County Real Estate Excise Tax | | | | X |
| King County Open Space Bonds | X | | | |
| City Funds | | | | X |

## 2.A Context

One of the most important functions of Meadowbrook Farm is that it creates a permanent open space buffer and community separator between the Cities of North Bend and Snoqualmie (see Vicinity Map). Meadowbrook Farm is also strategically located with respect to other nearby open spaces and trails to create a large regional open space resource which has major wildlife habitat and recreational benefits.

The Meadowbrook site supports and extends King County and Snoqualmie's adjacent Three Forks Natural Area, and King County and North Bend's Tollgate Farm. These sites help form a narrow "land bridge" with connects the Mt. Si Natural Resource Conservation Area (9,000 acres) Hancock Timber's Snoqualmie Tree Farm, and the Middle fork drainage of the Snoqualmie River (100,000 acres) on the east, with Rattlesnake Mountain (3,000 acres) and Seattle Public Utility Department's Cedar River Watershed (94,000 acres) to the west and south.

## 2.B Site Analysis and Inventory: Natural environment

### 2.B.1 Topography

Meadowbrook Farm is located on the Snoqualmie Valley floor. It is nearly flat, with a change in elevation of only about twenty feet. The primary topographic expression within the site is the slightly incised channel of the Snoqualmie River and the similar forms of the abandoned river channels known as Maskrod Slough and Meadowbrook Slough.

### 2.B.2 Soils

The visual and use characteristics of Meadowbrook Farm reflect the distribution and nature of soils on the site. The soils are derived from sands and gravels deposited by post glacial flooding, stream and river activity. The existing open meadow areas visible from Highway 202 and Boalch Road are underlain by well drained silt loam soils, while wet forested areas in the center of the site and at the edges of the fields are underlain by poorly drained, mucky soils (see Soils Map in Appendix). Generally, the well-drained soils are suitable for supporting the full range of uses being contemplated including recreation, agriculture, parking, buildings and resource management. The soils of the central meadow are suitable for informal active recreation, thus allowing it to be used for informal team sports without the extensive surface soil modifications required on most sites. The poorly drained soils have far more limited usability. Access by visitors and equipment may be limited to the dry summer and early fall months.

Additional details on the soil characteristics of Meadowbrook Farm included in the Soils Appendix.

2.B.3 Floodplain and Floodway

According to mapping by the Federal Emergency Management Agency (FEMA), much of the site (primarily in Snoqualmie) is within the 100-year floodplain of the South Fork of the Snoqualmie River. The portions of the site closest to the river are within the floodway, that area of the floodplain which carries moving flood water. Based on FEMA analysis, much of the site would be under approximately

five feet of water in a 100-year flood (See Hydrology Map appendix). The site of the Interpretive Center was chosen specifically as that area of Meadowbrook Farm is located out of the floodplain, thereby avoiding the threat of flood damage to the building and associated improvements.

### 2.B.4 Surface Hydrology

Meadowbrook Farm occupies rolling topography with most of the meadow areas above seasonally high water except during floods. Standing water occupies lower portions of the site in sloughs and wetlands. During wetter months groundwater rises to a level that makes most of the lower portions of the site wet.

Two creek systems and their associated sloughs and wetlands drain the site. Maskrod Slough winds through the central and northern portions of the site and flows to the east fork of Kimball Creek, which empties to the Snoqualmie River about two miles north of the site. The southern portion of the site drains to Gardiner Creek, which drains wetlands in western portions of the site west of Highway 202. Gardiner Creek traces much of the south boundary of the site and empties into the South Fork of the Snoqualmie River.

A large slough, or horseshoe bend, (Meadowbrook Slough, a Class One wetland) is located just off-site to the east. This slough is within Snoqualmie's portion of Three Forks Natural Area and connects directly to the Main Stem of the Snoqualmie River (see Hydrology Map in Appendix).

### 2.B.5 Plant Communities

Wildlife habitat and plant communities on site were inventoried and mapped by a wildlife/wetlands biologist for each area of the site. This detailed mapping and description of habitat types is shown in the Appendix. Meadowbrook Farm contains a broad cross-section of plant communities typical of the Cascade Mountain foothills and river valleys, with unique communities associated with the Site's unique location and historic management.

*Areas with development/management restrictions*: Some areas of the site are occupied by wetlands varying from areas with permanent standing water to areas which are seasonally wet and which were traditionally farmed in the driest part of the year. Current local, state and federal wetland regulations restrict use and development within designated wetlands and their protective buffers. Trail development, using suitable construction techniques, and wetland enhancement activities are generally allowable within wetlands. Construction of new trails through wetlands enhancement may require enhancement and mitigation measures to offset the loss of habitat to trail area. This requirement is addressed in the Master Plan by limiting trail construction in wetlands to the minimum required for a through trail connection. Some of the seasonally wet areas may also be managed for agriculture use.

Areas suitable for public access and use: Areas of the site identified as uplands by the habitat mapping are useable for human access and development under current regulations. Not surprisingly, these areas generally lie within the meadow areas, reflecting past agricultural practices of utilizing the drier areas of the site for pasture prairie, crops and grazing.

### 2.B.6 Fauna

The site is heavily used by wildlife including elk, deer, smaller mammals and birds such as hawks, turkey buzzards, and migratory birds. Meadowbrook Farm provides a vital migratory link for animals moving between the Snoqualmie River, Three Forks Natural Area, Mount Si Conservation area, Rattlesnake Ridge and the Cedar River Watershed. A resident sub-herd of the Upper Snoqualmie Valley elk herd has settled permanently on Meadowbrook Farm, and has changed the character and uses of the farm. The regional importance of this site to wildlife will increase with time as nesting and hunting habitat continues to be lost to urban development.

### 2.B.7 Visual Characteristics

The site's most distinctive visual feature is the sharp contrast between open meadows, woodland edges and the surrounding mountainous terrain. For the visitor driving by, this view is particularly effective looking east from Highway 202 across the Central Meadow towards Mount Si. When looking into the site from moving vehicles, the undulating forest/wetland edge periodically draws the eye far back into clearings in the forest. This relationship of forest edge and rolling meadow topography is what provides such a strong visual memory of the Meadowbrook Farm landscape.

Views from within the site are similarly memorable. The resident elk herd is often visible from multiple locations, and draws numerous visitors to Meadowbrook Farm for wildlife viewing and photography. From specific locations such as the enclosed meadows in the north portion or from the midst of the vast Central meadow, few elements of the 20$^{th}$ century are apparent. The visitor is provided with a visual experience of the Valley much as it must have appeared to Native Americans and early settlers. All that is visible is Mount Si towering above the forest at the edge of the meadow.

## 2.C Site Analysis and Inventory: Human Environment

### 2.C.1 Surrounding Roads and Access

Two roads cross the site. The Snoqualmie North Bend Road (SR 202) is a two lane State Highway with fairly high speeds connecting the Cities of Snoqualmie and North Bend. This road carries a high volume of traffic through the site. Due to the heavy traffic and high speeds, the road is a barrier to movement between the east and west portions of the site. There is an existing underpass constructed for livestock, which despite limitations for headroom and water during wetter months, could offer an opportunity for future trail connections across SR-202. Park Street / Boalch Ave NW is a narrow, low speed, two lane road of rural character. The road provides a secondary connection between Snoqualmie and North Bend. This road is the primary access route for visitors to the site. The rural visual character of the road is in conformance with the rural image the Farm is intending to portray. The Snoqualmie Valley Trail, on the former Chicago Milwaukee Saint Paul-Everett RR Line, passes through the eastern portion of the site. As use of this trail continues to grow, it will become an increasingly important means of access to the site, subject to development of a trail connection to the interpretive center.

A third road, North Bend Way (previous route of I-90/Highway 10), touches the southwest portion of the site. This road is a four-lane road, which connects North Bend directly to Interstate 90.

At North Bend Way, the site also touches the Puget Sound and Snoqualmie Valley Railroad of the Northwest Railway Museum, which runs an historical excursion train through the upper Snoqualmie Valley. A future train stop and/or trail connection here could provide access to Meadowbrook Farm and the Swing Rock for rail excursionists. Via a land exchange to locate and construct the Railway Conservation and Restoration Center, the Northwest Railway Museum has committed, in an Inter-local Agreement between the NWRM, City of Snoqualmie, and Meadowbrook Farm Preservation Association to provide an easement across the railroad tracks to this area for trail and parking access to Meadowbrook Farm.

### 2.C.2 Archaeological and Historical Resources

*Site History*: Human use and occupation of the foothills of the Cascades and upland river valleys is believed to have begun more than 9,000 years ago, evolving into occupation by the Snoqualmie Tribe in the Snoqualmie River drainage which continues to the present. Winter villages of cedar plank houses, generally located along the river, served as permanent bases from which hunting, gathering, and trading activities were conducted.

Subsistence activities occupied almost every month of the year. The Snoqualmies relied on hunting much more than did people of the saltwater settlements. Unlike areas below Snoqualmie Falls, salmon were not readily available as a major food source in the Upper Snoqualmie Valley. Open prairies were a conspicuous feature of the upper Snoqualmie Valley prior to historic homestead clearing. Open prairie areas were the result of periodic burning by the Indians to keep back encroaching forest and encourage proliferation of food plants such as bracken fern, camas, lilies, and various berry species. This created open clearings and edges in the forest to attract game and facilitate hunting. In addition, burning allowed the cultivation of camas in the meadow areas. The starchy roots of camas, along with lilies and bracken fern, were staples of the Native American diet.

Immigration from Europe and other parts of the world to the Puget Sound Region began in the mid 1800's. With the signing of the Point Elliot Treaty in 1855, the Snoqualmie Tribe's ancestral control of the land was reduced and white settlement eventually became dominant. The earliest settler at Meadowbrook arrived ca. 1858. Land claims which included the Farm site were filed through the 1860s and 1870s. The area including and surrounding the site contains several locations where early settlers farmed in the late 1800's, and the site played an important role in the hops growing boom in the area. The site was used intensively for grazing and pasture in the early part of the 20$^{th}$ century. With the rise of interstate trucking in the post World War II era, the need for local agricultural land in Western Washington declined. However, the Meadowbrook farm site has retained enough commercial viability for the meadow areas to be managed for livestock and agriculture uses to the present day.

*Significant Findings*: The site contains surface evidence of at least one significant pre-contact archaeological site and one historical archaeological site. Both may be eligible for inclusion in the National Register of Historic Places. The pre-contact site is believed to be a Native American temporary

fishing and hunting site. The appropriate jurisdiction has been informed of the existence and location of this site. The historical site encompasses remnants of a farm active well into the 20th century. Six other areas of possible cultural sensitivity were also identified.

The Swing Rock, located immediately west of Meadowbrook Farm between SR-202 and Stone Quarry Road, is of significant cultural importance to the Snoqualmie Tribe. Integral to the Snoqualmie's creation story, the majority of the Swing Rock is on private property and is being mined for gravel, with only the "face" of the rock adjacent to Meadowbrook Farm remaining. The removal of the remaining portions of the Swing Rock would be a significant loss of an important cultural resource and landmark. Efforts to secure conservation easements or property acquisition of the face of the Swing Rock should be undertaken. If acquired, this area would make a valuable addition to Meadowbrook Farm, with opportunities for the development of appropriate cultural and historic interpretive signage and facilities in partnership with the Snoqualmie Tribe.

## 3.A Aspects of Preservation

Preservation recommendations for Meadowbrook Farm have two major components. This chapter describes use and development recommendations; Chapter 4 describes landscape management/maintenance considerations.

In October of 1995, the Meadowbrook Farm Task Force II issued the Preservation Association Development/Management Philosophy (Appendix A) setting forth the general framework for policies regarding use of the Meadowbrook Farm site. One of these policies was to establish a non-profit group to assume long range stewardship of the Meadowbrook Farm. The Meadowbrook Farm Preservation Association was subsequently formed and developed the Meadowbrook Farm Use and Operation Rules (Appendix B). These two documents (with the Use and Operations Rules updated in 2013), along with the 2012 adoption of a branding statement for the Farm, were used to develop the following section, which is intended as a broad policy framework to guide development and use of the Meadowbrook Farm site.

The major categories of uses programmed for the site include:

- Trails and recreation
- Community gatherings and special events
- Education and interpretation of natural and cultural history
- Meadow/prairie maintenance (including viewshed maintenance)
- Limited agriculture
- Wildlife habitat preservation and enhancement

The development of the initial Land Use Plan was largely done by the Task Force. Potential site uses were identified and located by the group on a conceptual master plan drawing. This drawing was then revised to reflect the detailed inventory and analysis information arising from the consultant study of the site. The Land Use Plan was subsequently updated following experience from use of the farm over the past 15 years, and is depicted in Figure C. The preferred plan locates intensive activities such as parking and buildings adjacent to but not on the Central Meadow. This preserves the Meadow's visual quality, which is viewed as the site's most distinctive feature. The plan minimizes disturbances to sensitive archeological sites based on research conducted by the consulting archaeologist.

## 3.B Land Use Plan

The Land Use Plan (see Figure C) depicts the major land use areas identified for the Farm. Intensive activities and associated facilities are concentrated on the periphery of the site. This preserves the main complex of meadows, wetlands and woodlands from visually intrusive and environmentally damaging alterations.

### 3.B.1 Entry

The primary site entry is from Boalch Avenue. This provides access to the Interpretive Center and parking area (see below), with signage and landscape development appropriate to the historical and environmental setting. A secondary access is recommended to be provided by developing joint-use agreement for parking at the Mount Si Freshman Campus (former Snoqualmie Middle School) at the northwest edge of the site. This provides entry to the trail system, and for programmed events in the enclosed Boy Scout Island Meadow.

### 3.B.2 Access and Parking

A paved 19-stall parking lot adjacent to the Interpretive Center provides parking for access to Meadowbrook Farm and the Interpretive Center. For temporary larger events held on the Interpretive Center Events Field, primary parking can be accommodated on the eastern part of that field. This field parking area is generally understood to occupy a 700-foot by 200-foot area just west of the paved Boalch Trail, and between the paved Interpretive Center parking lot and the vehicle field entry 700 feet to the north, but can be scaled according to different events and different seasonal weather conditions. Parking for temporary events on the Greenchop Area/Event Fields may be accommodated on the northeast portion of those fields, adjacent to the vehicle entry points off Boalch Avenue and Park Street. Field parking in this area should be kept close to the street (but off the paved trail), so as to prevent field rutting and compaction of soils. Events requiring more parking than can be accommodated with these field parking areas may require arrangements for off-site parking.

### 3.B.3 Interpretive Center

The Meadowbrook Farm Interpretive Center (Figures D and E), completed in 2005, provides approximately 2,600 feet of open building area suitable for hosting meetings, events, classes and activities. It serves as the primary node for visitor use at Meadowbrook Farm, and offers space for educational and interpretive programming. The building is also available for rent to the general public for private events, such as weddings.

Currently, the building contains open area with tables and chairs, a small kitchenette, an upstairs loft, restrooms, and a storage room. The design of the building was inspired by traditional northwest Native American long houses, and early pioneer split-cedar construction.

A future addition to the Interpretive Center could provide space for a kitchen and other amenities suitable to hosting events, an interpretive display area for permanent displays and exhibits, and additional storage rooms. Further future development at the Interpretive Center Site could include an interpretive hop yard, a shelter for a tractor and other maintenance equipment, and a separate public restroom building.

### 3.B.4 Trails

Trails developed within the site should provide public access to showcase the natural and visual character of the Farm (see Figure F, Trail Plan). A well-designed trail system will concentrate usage

along low-impact routes. A planned primary trail loop of approximately two miles is designated the Samuel Hancock Loop Trail. This trail links all of the primary field areas with the Interpretive Center and public access points. It provides a wide range of trail experiences and interpretive signage opportunities. Secondary trails will provide additional linkages and opportunities for shorter walks. A trail connection to the adjacent Snoqualmie Valley Trail will link the Meadowbrook site with the regional trail system.

On-site trails will be designed to accommodate equestrians, walkers and bicyclists. Most trails intended for year round use will be located on high ground to avoid seasonal flooding. Some low-lying connecting segments may be periodically closed by high water. Trail construction through wetlands, streams or their buffers will be planned consistent with the Cities' environmental regulations and may require mitigation to compensate for lost wetland functions. Numerous existing culverted crossings minimize the number of new areas of impact.

### 3.B.5 Central Meadow

Lying directly adjacent to State Route 202, this area is the key visual element of the Farm. The primary use and management objective for the Central Meadow is to maintain the unimproved, open meadow appearance, especially as viewed from the heavily traveled SR 202. In part this assumes that the vast majority of casual acquaintance with Meadowbrook Farm will be drivers on SR 202. Preservation of an open meadow/green field appearance in this area will positively affect many people and set the visual tone for Meadowbrook Farm, providing continuity with the historic Snoqualmie Prairie that existed here prior to European settlement. Maintaining the open character of this area, both north and south of SR 202, also maintains the foreground as a scenic resource for exceptional views of Mount Si.

The specific techniques for maintenance of the grass (discussed in Chapter 4) may be adjusted over time in response to cultural and economic factors, and may differ between the area south of SR 202 and north of SR 202, but the appearance of these areas as open meadows should be retained.

Wetter areas of the central meadow will require more specialized management as described in the next chapter due to seasonal access limitations.

A special emphasis in the northern portion of the Central Meadow could be to recreate a "Puget Sound Prairie" landscape, which could include introduction of native plants and grasses. The area south of SR 202 could also be an area for use as a green chop or hay field, which would both maintain a green open field appearance and provide a more visible connection to the farm's agricultural history.

The central meadow area north of SR 202 may be used on occasion as part of a larger temporary event, subject to certain conditions.

### 3.B.6 Swing Rock Field

The Swing Rock Field is an extension of the Central Meadow, on the West side of SR-202. The use and management objectives for the Swing Rock Field are the same as those for the Central Meadow.

### 3.B.7 Interpretive Center Events Field

A 15-acre field immediately west of the Interpretive Center is used as one of the primary fields for events and gatherings at Meadowbrook Farm, particularly for events centered on or associated with the interpretive center. Mowing is more regularly conducted to keep grass shorter to allow for more frequent use and activities. A portion of the Interpretive Center Events Field closest to Boalch Avenue is generally used for parking for larger seasonal events, as further described under the parking section above.

### 3.B.8 Dike Road Fields

Two isolated fields are located east of Boalch Avenue, accessed via the dike road. With close access to the parking at the Interpretive Center and the Community Events Field, the Dike Road Fields are appropriate for small scale events and activities such as weddings and outdoor performances, and should be maintained for such use. A trail connection should be constructed across this area to link to the Snoqualmie Valley Trail to the east.

### 3.B.9 Boy Scout Island Field

This island, near the Mount Si High School Freshman Campus, was formed by sloughs and drainage ditches, and appears to the visitor as a clearing in the forest. Views from this area show no trace of modern times. The secluded space, with surrounding trees, views of Mount Si and open sky provides an experience of earlier eras and landscapes in the Snoqualmie Valley. Maintenance of this viewshed is recommended to preserve this experience. Parking is recommended to be provided through a joint use agreement with the nearby school campus. The Samuel Hancock Loop Trail links this meadow to the rest of the site.

### 3.B.10 Camas Meadow

A second “island” type of clearing in the woods is located directly east of the Boy Scout Island Field. This clearing could either be maintained as an independent and isolated clearing, or could be incorporated into the main central meadow or Greenchop Area/Event Fields through additional clearing to provide more dramatic views into the site. A portion of the Samuel Hancock Trail will connect through the west side of the Camas Meadow.

### 3.B.11 Greenchop Area/Event Fields

The Greenchop Area/Event Fields may be used for a variety of purposes, depending on the maintenance and use arrangements for these fields, demand for event space, and possible future agricultural uses.

This area, among the most fertile land on Meadowbrook Farm, has been used for greenchop and hay production, but is not limited to agricultural uses. This is the only area of the farm not encumbered by the use restrictions of the Washington Wildlife and Recreation Coalition, which was used in part for the acquisition of other portions of the farm property.

Given the size of this area, its proximity to public parking at Centennial Fields Park, Snoqualmie Elementary School, and the Mt. Si High School Freshman Campus (former Snoqualmie Middle School), its surrounding vegetation and prime view of Mt. Si, this area is well suited to support outdoor recreation activities and events consistent with the mission and brand statements. As it is well separated from the interpretive center and Community Events Field, it provides an opportunity to host two separate events or activities simultaneously. This area should be managed as a meadow using practices similar to those for other meadow/field areas. Areas for event use may require more frequent mowing and maintenance to keep the grass and field surface in a suitable condition. As described in section 3.B.2, any on-field parking permitted for events should be kept close to the road, so as to minimize soil rutting and compaction.

Agricultural uses, including hay or greenchop production or other crops, may be continued on a portion of this and other areas of the farm property to provide an important living link to the agricultural history of the property.

### 3.B.12 Forest Areas

Forest areas include the Forest Preserve and the Wetland Forest. Forest Preserve areas are characterized by mature mixed coniferous forest, and include substantial areas east of the Snoqualmie Valley Trail and west of SR-202, and between the Central Meadow and the Boy Scout Island meadow. Two significant old growth cedars are located in the eastern Forest Preserve, and are accessed from a spur trail off the Snoqualmie Valley Trail. A trail should be constructed to connect the forest preserve and the Snoqualmie Valley Trail at the easternmost end of Meadowbrook Farm with the Dike Road Fields and the Interpretive Center to the west.

The Wetland Forest is located east of the Greenchop Area/Event Fields. It is characterized by a relatively young deciduous forest canopy and includes large slough-wetlands that are remnant channels of the Snoqualmie River, between the Central Meadow and the Greenchop Area/Event Fields. A volunteer planting effort to mark the arrival of the millennium was completed in 2000, planting a grove of western red cedars at the southern edge of the wetland forest. The forest areas will be left alone, aside from trails accessing through the site and invasive species control. Any currently cleared/open areas will not be actively managed and will return to forest.

### 3.B.13 Mixed Habitat Area

This area, between the Central Meadow and the Wetland Forest, contains a mix of field, forest and wetlands, reflecting the rich diversity of habitats on Meadowbrook Farm. A limited trail system should bisect this area to connect portions of the encircling Samuel Hancock loop trail and to provide an interesting and diverse trail experience for hiking, horseback riding and bicycling. Minor clearing may be conducted to prevent the encroachment of forest and invasive species, and to maintain the mix of open woodland and meadow areas. Additionally, drainage ditch maintenance may periodically be conducted subject to permitting, to maintain the hydrology of the site.

### 3.B.14 Elk Viewing Areas

Four primary areas should be developed and/or improved for pull-off parking and public viewing of the resident elk herd on Meadowbrook Farm. These include the chain gate off Park Street near Centennial Field, two existing gravel pull-offs along Boalch Street in Snoqualmie and one in North Bend, and a pull-off on the east side of SR-202 along the Central Meadow in Snoqualmie. Additionally, future improvements at the swing rock on the west side of SR-202 may accommodate additional elk viewing facilities (described in 3.D.1 below).

These pull-offs should be developed with minimal parking improvements as needed to better define the viewing area and prevent vehicles from driving across the fields.

The SR-202 pull-off areas could be developed together with the Snoqualmie Tribe and have a dual focus of elk viewing and interpretation of the importance of the Swing Rock to the Snoqualmie Tribe.

### 3.B.15 Swing Rock Interpretive Area

Located east of SR-202 across from the Central Meadow, this site figures prominently in Snoqualmie tribal religion and mythology. Known as Yah-do-ad, "The Swing", the rock is central to the traditional creation story of the Snoqualmie people and the Valley. While the majority of the original "Swing Rock" has been mined for rock and gravel in an adjacent active quarry, portions remain on Meadowbrook Farm and should be preserved and developed for historic and cultural interpretation in coordination with the Snoqualmie Tribe. Possible development would include interpretive signage, a trailhead linking through the SR-202 cattle underpass ("moo-thru") to other trails on Meadowbrook Farm, an elk viewing area/platform, and minimal parking. See section 3.D.1 below regarding possible acquisition of the remainder of the Swing Rock.

### 3.B.16 Agricultural Uses

The Association should maintain an appropriate balance between possible agricultural uses and event uses on the property. As stated in the different use area sections above, greenchop, hay, and possibly other crops could be accommodated in a number of areas, including portions of the Greenchop Area/Event Fields, Central Meadow, Camas Meadow, or small demonstration areas around the interpretive center. For any agricultural uses other than greenchop/hay, it is likely that fencing would be needed to restrict elk access. Agricultural uses should not overly restrict appropriate public use and access on Meadowbrook Farm, or the possibility for events. Mowing, haying or greenchop contracts, if arranged, will need to include provisions allowing for compatible event uses subject to scheduling. Additionally, a 20-foot wide trail corridor must be retained at field perimeters to maintain public access through to other areas of the farm.

### 3.B.17 Additional Future Potential Features/Sites

The following additional features have been identified through the planning process for Meadowbrook Farm, envisioned by various stakeholders or original property owners. These features are envisioned

further into the future, after primary development of the trail system and other site facilities have been completed.

- Natural Amphitheater - The northeast corner of the Interpretive Center Event Field at the City Limit line contains a natural bowl that could be suitable for use as an informal amphitheater. A small stage could be constructed to support concerts, outdoor theater, and similar activities, with power extended to the site for outlets. Temporary portable toilets could be provided for such events.
- Arboretum - A potential future arboretum could be located just east of the Mount Si Freshman Campus parking lot (former Snoqualmie Middle School). This arboretum was a vision of the original property owner, and could be managed by a garden club or horticultural society. As it would entail significant efforts and costs to develop and manage, it would need to be spearheaded largely outside of the efforts of the Meadowbrook Farm Preservation Association.
- Historic Railroad Interpretive Site and Trailhead – A trackside platform on the Puget Sound and Snoqualmie historic railroad operated by the Northwest Railway Museum is envisioned as a possible stop that could bring visitors on the train to Meadowbrook Farm for special events or hiking within the Forest Preserve area. The site could also provide interpretive signage describing the relationship between the railroad and former uses on Meadowbrook Farm. The Northwest Railway Museum has committed to providing an easement across their property to enable a trail connection between the trackside platform and the remainder of Meadowbrook Farm.

### 3.B.18 Well Sites

At least four well sites exist on Meadowbrook Farm. Two exist on the Central Meadow, and are owned by Meadowbrook Farm. At least two easements exist for other wells as identified in the deeds to the property. The wells owned by Meadowbrook Farm could possibly be brought back into service to provide for irrigation on the farm.

### 3.B.19 Easements of Meadowbrook Farm

Meadowbrook Farm owns a 60-foot wide easement for ingress, egress and utilities that crosses the mini-storage property and Snoqualmie Valley Youth Activity Center property from the terminus of SE 14$^{th}$ Street to the Snoqualmie Valley Trail, on the boundary between those properties, per Recording No. 7908270717 and No. 8512031343. This easement could be used for future trail access, subject to improvements, although it is at a distance from most of the improved areas of Meadowbrook Farm.

Additionally, during the 2007 property exchange and boundary line adjustment between the Northwest Railway Museum (NWRM) and the Cities of North Bend and Snoqualmie as necessary for the NWRM to construct their Railroad Restoration Facility, the NWRM agreed to grant the Cities an easement 20-feet in width from Stone Quarry road across the railroad tracks for vehicular and pedestrian access Meadowbrook Farm, located at approximately the present access to the quarry. (See provision 7 of the

Agreement for Property Exchange by and Among the City of Snoqualmie, the City of North Bend, and the Northwest Railway Museum, signed October 8, 2007.)

### 3.B.20 Access Control

Meadowbrook Farm is occasionally impacted by unauthorized access and recreational use of motorized vehicles and ultralight aircraft on portions of the farm. Access for such activities typically occurs at points of easy ingress which are not highly visible from adjacent roads, such as the southern segment of the farm along the east side of Boalch Avenue. These activities conflict with the management goals of the Farm.

Appropriate controls are needed along those edges of the Farm where vehicle trespass problems occur. While almost no system provides protection against determined trespassers, reasonable steps will minimize the problem. Except at established entry points, the east side of Boalch Avenue where visibility of intruders is limited has been ditched and fenced tokeep out casual vehicular trespass. Access control in areas that have some visibility from major roads, such as along highway 202, may not require as strong a physical barrier as a fence. Access control in these locations may be provided by means of a ditch, vegetation, bollards, or gates, as is appropriate to the location. Any vegetation barriers should be low, particularly along highway 202 to maintain views across the site. Bollards and a gate or removable bollards may protect existing entry points where maintenance access is needed. The bollards should be set back from the road to allow a pull off area to accommodate vehicles while the bollards are being removed or the gate is being opened. Bollards should also be provided where trails cross vehicle entry points, to discourage vehicles from driving down trails.

## 3.C General Use Policies

Several general use policies, which apply to all areas of the site, are presented below. Detailed use restrictions and specific requirements for fees and scheduling are included in Appendix B – Meadowbrook Farm Use and Operation Rules.

### 3.C.1 Wildlife use

Wildlife corridors are areas that are recognized for their importance in supporting the movement of wildlife between large natural areas. The entire Meadowbrook Farm site serves as a wildlife corridor and habitat area, directly linked to other nearby open space reserves. Wildlife thrives on a diverse combination of open and forested environments. To support this usage, the site should retain as many vegetated edges as possible to provide ideal habitat for food and cover.

### 3.C.2 Recreation and Site Improvements

Most of the site will be available for passive outdoor recreation. Informal and temporary active recreation activities may be accommodated in the Central Meadow but no special field preparation and surfacing or permanent structures such as backstops or fences are proposed.

### 3.C.3 Special Events

Use of the site for special events that do not permanently alter its visual and environmental characteristics is encouraged as a way to increase public use and enjoyment of Meadowbrook Farm and to generate revenue for support of development, maintenance, and programming at the farm. Such events might include theater, outdoor concerts, agricultural equipment shows, kite flying, athletic events, obstacle or relay races, and fairs. Activities for children, such as scouting and school visits as well as private gatherings such as weddings, small group picnics etc. can also be accommodated.

Not all special event uses will be appropriate for all areas. The Preservation Association will determine which areas depicted on the Land Use Plan are appropriate for special event use based on the type of use and its anticipated impacts. Special events are subject to compliance with the Meadowbrook Farm Use and Operation Rules (Appendix B), and any conditions of the applicable city's Special Event Permit. Generally, the following areas depicted on the Land Use Plan (Figure C) are suitable for special event gatherings:

a. Interpretive Center Event Field, to be accessed from Boalch Avenue;
b. The Greenchop Area/Event Fields, to be accessed from Boach Avenue/Park Street;
c. Boy Scout Meadow, to be accessed from Snoqualmie Middle School parking lot;
d. Interpretive Center;
e. The dike road fields;
f. Other areas as appropriate, subject to special arrangements.

### 3.C.4 Archaeological Sites

Several archaeological and historical cultural sites have been identified at Meadowbrook Farm. To minimize the potential for public disturbance of existing artifacts, specific site locations are not provided in this report. In conjunction with development activities, site managers will need to conduct appropriate follow-up investigations and implement mitigating measures as appropriate. The master plan has been designed to help develop appropriate interpretive facilities.

## 3.D Possible Future Acquisition

### 3.D.1 Swing Rock Area

As described under section 3.B.14 above, the Swing Rock is high important to the Snoqualmie Tribe, and by extension, is an important cultural site in the Snoqualmie Valley. Except for remaining portions of the northeast face of the rock on Meadowbrook Farm, the Swing Rock site is on private property and is operated as a rock and gravel quarry and fill site. Acquisition of the property would enable protection of the remaining portions of the Swing Rock, further interpretation of the site, and possible development of appropriate cultural uses in coordination with the Snoqualmie Tribe.


# Meadowbrook Farm

## Cities of Snoqualmie & North Bend, WA

N
W E
S

**Legend**

- Railroad
- Snoqualmie Valley Trail
- Meadowbrook Farm Boundary

**Oct. 8th, 2013**

**1 inch = 700 feet**

**Figure C**

## Land Use Plan


# Meadowbrook Farm

## Cities of Snoqualmie & North Bend, WA

N
W E
S

**Legend**

- Planned Trails
- Trails
- Meadowbrook Farm Boundary

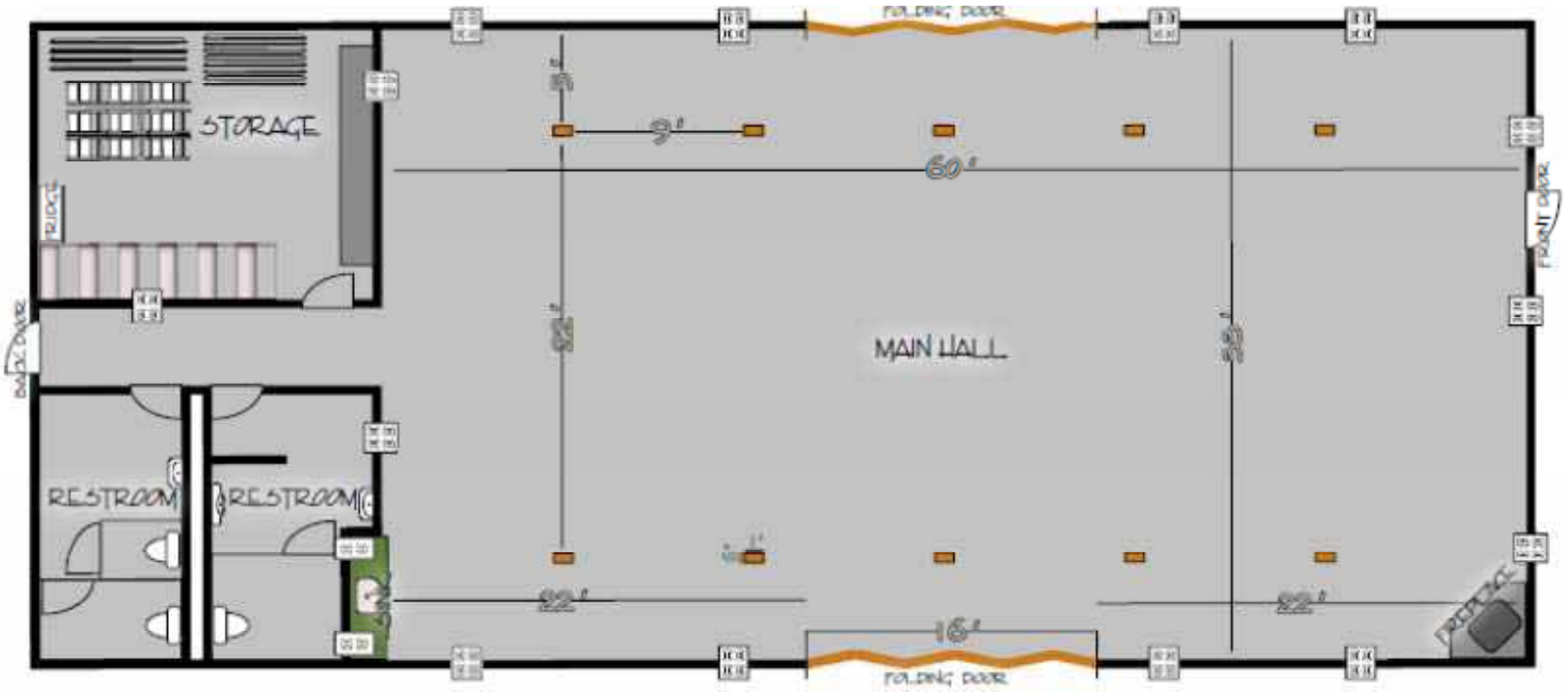
**Oct. 8th, 2013**

**1 inch = 50 feet**

**Figure D**

## Interpretive Center Use Plan

Main Floor




Upstairs Loft

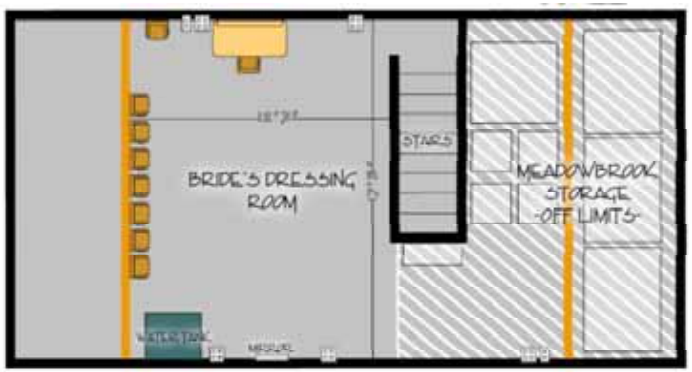
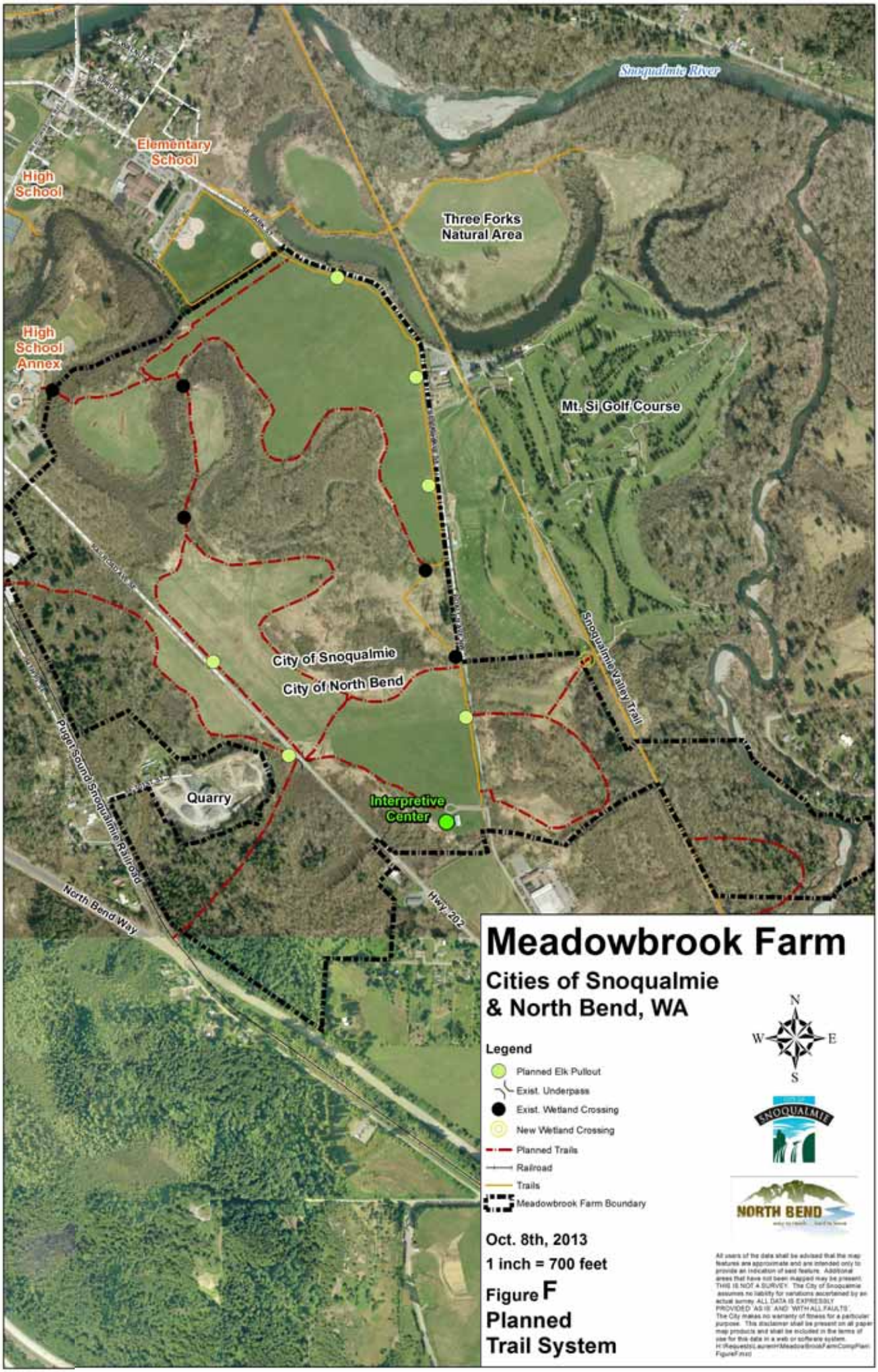



**Figure E**

Meadowbrook Farm
Interpretive Center

Interior Layout


Snoqualmie River
Elementary School
High School
Three Forks Natural Area
High School Annex
Mt. Si Golf Course
Snoqualmie Valley Trail
City of Snoqualmie
City of North Bend
Puget Sound Snoqualmie Railroad
Quarry
Interpretive Center
North Bend Way
Hwy 202
Meadowbrook Farm
Cities of Snoqualmie & North Bend, WA
Legend
Planned Elk Pullout
Exist. Underpass
Exist. Wetland Crossing
New Wetland Crossing
Planned Trails
Railroad
Trails
Meadowbrook Farm Boundary
N
W
E
S
SNOQUALMIE
NORTH BEND
Oct. 8th, 2013
1 inch = 700 feet
Figure F
Planned Trail System
All users of the data shall be advised that the map features are approximate and are intended only to provide an indication of said feature. Additional areas that have not been mapped may be present. THIS IS NOT A SURVEY. The City of Snoqualmie assumes no liability for variations ascertained by an actual survey. ALL DATA IS EXPRESSLY PROVIDED 'AS IS' AND 'WITH ALL FAULTS'. The City makes no warranty of fitness for a particular purpose. This disclaimer shall be present on all paper map products and shall be included in the terms of use for this data in a web or software system.
H:\Requests\Lauren\Meadowbrook\FarmCompPlan\FigureF.mxd

## 4.A Introduction

The prairie areas of Meadowbrook Farm are a reflection of past and ongoing land management practices. They only exist at this location due to human intervention. The natural mature plant community for the upper Snoqualmie Valley is identified as the Western Hemlock Zone. Within this zone a mature coniferous forest dominates the hillside areas. A mixture of coniferous and deciduous forest dominates the valley bottoms. The cross-section of plant communities on the Farm presents an almost complete spectrum demonstrating plant succession. The prairies represent the first step in that succession from "disturbed" ground to a mature forest landscape. The disturbance in this instance is human intervention. In time, those areas once cleared and used for agricultural activities will change and become established with a mixture of woody shrubs and sapling trees and then eventually deciduous and coniferous trees. The first few steps of this successional change in plant communities can be observed onsite in many areas. The particular plant species involved within these changes is dependent upon many factors (i.e. soil conditions, soil saturation, site hydrology, available seed sources, the characteristic growth patterns of the particular species).

The current landscape scene at Meadowbrook Farm is a snapshot in time. The open prairies, seen in sharp contrast to surrounding woodlands, are part of the strong visual presence at the heart of the Meadowbrook experience. The development and management objectives of this Master Plan presume the desirability of maintaining this visual and habitat diversity at the Farm in the future.

## 4.B Management/Maintenance Strategies

Three basic management/maintenance strategies are available:

- no action;
- active arrested succession; and
- active shift of succession

### 4.B.1 No Action

The no action strategy is self-explanatory. While not viable for the meadows if preservation is desired, this approach is suitable toward existing woodlands, as described below.

### 4.B.2 Active Arrested Succession

Active arrested succession has as its primary objective the continuance of the visual prominence of the prairie areas at the Farm. Management is directed to maintain the open meadows in grasses and controlling the invasion of non-meadow species (particularly woods shrubs and sapling trees along the meadow edges). However, keeping the existing grass community will require some actions. These actions include periodic efforts (i.e. plowing and/or mowing) to control invasive herb species (i.e. thistle, softrush) and periodic re-seeding with selected grass species.

### 4.B.3 Active Shift

Management can also be achieved by forcing an active shift in natural succession. Activities fitting this approach and discussed elsewhere include planting the millennium cedar grove, other reforestation activities, seasonally flooding areas, or excavating open pools.

This shift can work both forwards and backwards. For example, a grass wet meadow can be planted with native trees and shrubs to move the succession forward. In addition, a grass wet meadow can be excavated and planted with emergent wet species to move the succession backward.

## 4.C Meadow Areas

The visual impact of the meadows, in conjunction with forested edges and the surrounding mountains, is central to the preservation strategy behind Meadowbrook Farm, and the continuation of the historic Snoqualmie Prairie. To retain this open character, particularly of the Central Meadow and Boy Scout Island, requires active and ongoing intervention. Several approaches are discussed below. The ultimate management strategy would likely rely on a combination of approaches selected to meet several objectives:

- health and diversity of the meadow habitat;
- compatibility with public access;
- educational and interpretive opportunities; and
- cost

### 4.C.1 No Action

If no maintenance activities are undertaken on existing meadow areas, they will disappear over time. That trend is already in evidence. Blackberry and other invasive plants are invading edges and interior parts of the major meadows not subject to intensive hay/green chop management. Increasing coverage by scrub shrub would be succeeded in turn by alder and cottonwood forest and eventually conifers. The sharp and distinct edge conditions and visual contrast between meadow and woodland would be lost. This is not a viable option under the goals and objectives set for Meadowbrook Farm.

### 4.C.2 Meadow Maintenance Mowing

Mowing the meadows is a straightforward approach and is a continuation of the current practice. Frequency and attention to thoroughness are the key variables in how well woody plants are suppressed. Mowing two or three times a year is the recommended minimum.

Mowing alone will not prevent the meadows from decreasing in size. Woody plants along the forest edge, and blackberry in particular, gradually creep out into the meadow. This must be controlled regularly by mechanical methods coordinated with the mowing.

Meadow mowing may rely on a combination of contractual relations with local farmers for mowing in exchange for the ability to hay additional fields, arrangements with the Cities or the Si View Metropolitan Park District, and additional paid mowing services.

### 4.C.3 Short Grass Maintenance Mowing

Meadow maintenance mowing can also be done with a different philosophy and objectives. For the purpose of discussion, this approach will be termed 'short grass' mowing, although 'playfield' or 'rough meadow' is a better visualization. Mowing is done on a much more frequent schedule, bi-weekly or monthly. In this approach, cuttings are left in the meadow. The practice is designed strictly for maintenance of the meadow, without the crop yield that underlies the previous approach. As a management tool this allows more attention to woody plant suppression and should lengthen the cycle of major renovation by several years.

Areas of the Greenchop Area/Events Field available for event use will need to be maintained with this approach, with additional mowings beyond the regular maintenance mowings scheduled on an as-needed basis. While mowing would be more frequent, short grass mown areas would probably be used more than the open areas. The more intense human use in these areas may require that they be reseeded more often to keep grass growing in heavily trampled areas. Another approach would be to rotate intensively used areas frequently so as not to concentrate the trampling.

Meadows maintained by mowing generally need periodic major renovation. Likewise, agricultural fields more intensively managed with liquid manure, as may be done in areas Used for greenchop/hay production, also require renovation. In the latter case, manure application eventually results in the buildup of a surface layer detrimental to good plant growth. In either case, renovation can be accomplished by plowing and reseeding.

### 4.C.4 Plowing

The current field restoration practice followed by most local farmers is plowing, harrowing and reseeding, generally with exotic grass species selected for their value to livestock. Depending on the on-going maintenance practices, plowing and reseeding generally occurs on a 3 to 7-year cycle. During renovation, public access would need to be restricted. Additional agricultural crops could be grown, subject to consideration of the likelihood of browsing/damage from elk and other wildlife.

### 4.C.5 Livestock

Cattle, or perhaps horses or sheep could be used to maintain prairie areas. If such activity becomes an intensive, revenue generating one, use restrictions associated with funding probably limit this activity to areas of the Greenchop Area/Events Field, and may require the use of stiles and cattle guards to maintain public access in these areas. With the proper timing and stocking densities, invasive woody plants can be effectively controlled for a longer period of time than a no action strategy. However, livestock cannot be counted on to crop woody plants once they begin to colonize. Patches of woody

plants will eventually spread, requiring the more intensive management approaches discussed above in order to restore quality of the open meadow.

Fences (including electric) may be required to contain livestock. This represents a capital and maintenance cost. Fencing is also not fully compatible with public access, unless stiles and cattle guards are provided to maintain access.

The best success with retarding woody plant colonization with livestock relies on higher stocking densities rotated periodically. This approach could be achieved by one of two methods:

- cross-fence the meadows to allow rotation of a herd from parcel to parcel; or
- periodically bring to the Farm a herd whose main pastures are elsewhere.

Either approach requires a contractual agreement with a nearby farmer. With the limited remaining herd resources in the Snoqualmie Valley area, such opportunities are very limited. Financial and liability arrangements would be subject to negotiation: cost of fence installation and maintenance, vs. net income from pasture rental.

### 4.C.6 Herbicides

Herbicides are an additional tool which may be suitable in certain instances. However, the farm has been certified as organic, which presents an opportunity for future use which may be advantageous to maintain. Additional concerns that limit herbicide use on Meadowbrook Farm include water quality, air quality, public health and limited connection with historical uses. However, the controlled use of herbicides may be suitable for trail maintenance, invasive weed control, and other specific, limited applications.

The intensity of herbicide use would potentially be reduced or eliminated over time within those areas selected to progress into more natural plant communities (i.e. open pasture taken to woody shrubs and then to trees). Herbicides would be used initially to eliminate species that have had the advantage under current land management (i.e. Knotweed, tansy ragwort, Scotch broom, blackberries, and alder reseeding).

The need to use herbicides within the open meadow areas can also be reduced or eliminated by active management of the plant communities (i.e. mowing, plowing and reseeding). The use of herbicides will also require public education.

### 4.C.7 Biological Controls

There are a number of biological methods available to control harmful weeds. These methods have proven effective in some areas and not effective in other areas. As an example, cinnabar moth larvae, flea beetle, and seedhead fly can control tansy ragwort. Assistance with these methods is available through several federal and local agencies. Another approach is to gather a group of people together to pull weeds and smaller invasive woody plants out. This can be a very good Boy/Girl Scout weekend program.

### 4.C.8 Recommendations

For the majority of the Central Meadow, the Camas Meadow and the Boy Scout Island Meadow, regular maintenance should be by low frequency meadow mowing. For the more intensively used section of the Central Meadow identified as the Interpretive Center Events Field, the increased frequency of 'short grass' mowing is recommended. Short grass mowing may also be needed in areas of the Greenchop Area/Events Field and other areas used more frequently for events.

## 4.D Scrub Shrub Areas

Scrub shrub areas are limited at Meadowbrook Farm, but are high visibility elements of the Farm landscape. The large vegetated "peninsula" within the central meadow is principally scrub shrub.

Growth of scrub shrub plants is the first step in the transformation of a meadow area to woodland. Woody plants, pioneered by blackberry and scotch broom, colonize the meadow and with time supplant it. Additional woody shrubs and trees take advantage of the increasingly shaded and protected setting, eventually transitioning it into young woodland.

As discussed above under "Meadows," woody shrub invasion of meadow areas is inevitable in the Snoqualmie Valley setting. Historically, woody plants have been controlled by burning, mowing or plowing. Woody plants can also be controlled by site flooding well into the growing season. Such flooding would stop the invasion of shrubs and sapling trees.

### 4.D.1 No Action Outcome

The existing scrub shrub areas are a recent manifestation of changed agricultural practices. In the near past, these areas were used as pasture and crop lands and were maintained by traditional agricultural methods. The areas now reverting to scrub shrub are typically damper than the higher meadows. They are workable less of the year, and support a higher percentage of plants with low-value for pasture or hay/green chop. With no maintenance in the future, these areas will continue to evolve into woodlands.

### 4.D.2 Convert Back to Meadow

The scrub shrub areas can be brought back into meadow with renovation activities as described above for meadow maintenance: brush removal, plowing, reseeding and mowing. These restoration activities would be suitable for the prior field area off 14$^{th}$ Street, the dike road fields, and high areas of scrub shrub in the Central Meadow, as depicted on Fugure G.

### 4.D.3 Additional non-recommended management considerations

The original master plan considered maintaining of open prarie vegetation through the use of controlled seasonal flooding, and the creation of permanent open water areas rather than seasonally wet areas as

a potential management strategy. These approaches have been deemed infeasible due to the complexity of such measures, the costs to implement them, and in the case of seasonal flooding, the associated management obligations.

#### 4.D.5 Recommendations

Because of the cost and complexity of flooding or excavation, the principal strategy for maintaining meadow or prairie conditions in scrub shrub areas will be via periodic clearing, brush removal, plowing, and reseeding.

The upland connection between the Central Meadow and the Camas Meadow might be restored to meadow using these techniques. This would provide a long and sinuous arm of the Central Meadow, tightly hemmed in by adjacent forest. This would provide a landscape setting unique at the Farm and the extended edge would provide additional prime habitat. Similar restoration is recommended on the Dike Road fields.

## 4.E Woodlands

#### 4.E.1 No Action

Wooded areas of the site are generally further along in the natural progression of succession than the open areas of the site. Some, such as the area along the state highway adjacent to the Mount Si Freshman Campus, have reverted to woodland relatively recently. The trees are young and dominated by alders, the early pioneer species of reforestation. More mature woodlands are typified by an increasing proportion of conifers; Douglas fir in uplands, cedars, spruce and hemlocks in moister areas.

Almost no old growth forest remains, although there are several very old specimen conifers in Forest Preserve Areas, notably the two giant Western red cedars east of the Snoqualmie Valley Trail. All areas of Meadowbrook Farm have been cleared at least once by Indians managing open meadows, by timber companies, or by early settlers.

The no action management strategy allows the maturation of the woodlands to continue. No direct actions are required except to prune or remove hazards in locations regularly frequented by visitors. Maintenance to control outward ‘creep’ of the forest edge is discussed above under meadow management.

#### 4.E.2 Reforestation

Reforestation aims at accelerating succession by early introduction of trees, generally conifers of the climax or near climax forest.

#### 4.E.3 Recommendations

Planting of a Millennium Cedar Grove is described in Chapter 3. This is reforestation with one of the key climax forest species. The area of mixed forest lying east of the Snoqualmie Valley Trail is a suitable

candidate site for additional replanting with a mix of native conifers: cedars, hemlock and Sitka spruce. Reforestation is encouraged in riparian areas, but not in prairie or meadow areas, which should be maintained to preserve the open character of Meadowbrook Farm, and continuity of the historic Snoqualmie Prairie.

## 4.F Ditches

Site drainage features are shown on the Hydrology Map in Appendix D. Gardiner Creek, portions of the Maskrod slough, and other smaller scale drainage features have historically been modified or dug to improve field drainage. Gardiner Creek was extensively straightened and deepened in the past, turning it from a natural stream to a utilitarian ditch. Ditch maintenance was a normal part of agricultural activities aimed at drying up fields and pastures to increase their utility through the seasons.

### 4.F.1 No Action

Small ditches and slow moving stream channels tend to fill up over time due to a combination of sedimentation and plant growth. As the channel aggrades, its capacity decreases, so adjacent areas remain wetter longer. It represents the lowest maintenance cost approach, with potential long-term impacts on the use of the fields and program.

### 4.F.2 Periodic Maintenance – Arrested Succession

Drainage ditches near roads or development sites may need periodic maintenance to retain their ability to move water away from areas used by visitors. Vegetation removal, coupled with excavation would restore channel capacity. While freshly cleared ditches are visually unattractive, native vegetation quickly re-clothes the banks.

### 4.F.3 Recommendation

Drainage ditch and culvert maintenance: The drainage ditch along the City limit line has gradually filled in, backing up water onto the Central Meadow. The culverts at the Dike Road Fields, the Camas Meadow, and the Boy Scout Island Field causeway to the Greenchop Area/Event Fields, and causeway near the Mount Si Freshman Campus will need to be replaced with culverts with greater capacity and/or regularly maintained to ensure proper flow. Drainage improvements also need to be made at the Moo-Thru (cattle underpass) site to enable year-round access through the Moo-Thru.

Reconstruct channel: Gardiner Creek could benefit from restoration of a more natural channel configuration. The current straight-line ditch, with steep cutbanks, provides lower hydrologic and habitat benefits than in its original natural configuration. Some segments of Gardiner Creek along the south edge of Meadowbrook Farm could be reconstructed to restore a more natural alignment and channel cross section. This creek forms the property line between the farm and adjacent property. Before improvements could be constructed, an agreement with affected property owners on the south side of the creek would be needed or improvements would need to be confined to the north side of the

Creek. The benefits would be directed to habitat improvement, but the project could play a highly visible and accessible educational role.

## 4.G Wildlife Impacts to Landscape Management

### 4.G.3 Moles

Meadowbrook Farm is prime habitat for moles, and their mounds can dominate the appearance of the field and meadow areas, particularly in early spring before the grass becomes tall and regular mowing occurs. Mole mounds are principally an aesthetic issue, as they do not cause permanent damage to the fields, and actually help to aerate and loosen the soil. However, mole mounds may create unevenness that may be incompatible with certain activities, particularly on the Interpretive Center Events Field. Mole mounds can be smoothed down by dragging a section of chain-link fence behind a tractor, which could be done periodically as needed. Mole control may be provided via trapping or gassing, but these measures only provide temporary relief, as the area will eventually be re-colonized, and present challenges for public safety as the fields are continuously open to public use.

### 4.G.1 Beavers

Beaver dams can dramatically change the landscape and drainage of an area, and can result in significant ponding of areas that were once dry. While beavers are an integral part of the natural web of wildlife found on Meadowbrook Farm, they have the potential to greatly diminish the usability of areas of Meadowbrook Farm if not properly managed. Flow devices, or "beaver deceivers," can be installed in beaver dams and road culverts to allow proper flow and drainage while allowing the beaver to maintain their dam and habitat. This strategy has proven much more effective at addressing beaver-related drainage problems than trapping, as beavers will quickly re-colonize a desirable area. Management of beaver habitat will occur on an as-needed basis.

### 4.G.2 Elk

The elk on Meadowbrook Farm present both landscape maintenance challenges and benefits. The elk help to graze the grasses, and may assist with prevention of the encroachment of young trees into the meadow areas by their propensity to browse woody vegetation. However they do not browse on blackberry, holly, or scotchbroom, which are particularly aggressive invaders. Elk can cause significant damage to trails and field areas by trampling and churning ruts, and can create extensive "elk paths" through forested areas. The elk population, which has grown significantly over the past decade, has significantly limited the ability to grow crops on Meadowbrook Farm and might be problematic for fencing as necessary to contain grazing animals. The Department of Fish and Wildlife and the Upper Snoqualmie Elk Management Group are working to manage the elk herd and address issues related to local overpopulation and damage.

## 4.H Interpretive Center Area

Site maintenance in developed areas will necessarily be somewhat different than for the balance of the site. Mowing around the interpretive center needs to occur more frequently than the remainder of the associated events field, which in turn, needs to be mowed more frequently than the Central Meadow and other more passively used fields at the farm. Increasing use of the building and grounds will require increasing mowing and maintenance for events and activities.

The Interpretive Center building requires regular cleaning and management, including repairs as necessary, winterizing, and other activities. The management of the Interpretive Center building for rentals is addressed through an agreement with the Si View Metropolitan Park District, which takes a percentage of the rental revenue. Management activities as a rental venue include the following:

- driveway upkeep
- window cleaning
- regularly-scheduled deep cleaning
- winterizing
- landscape maintenance and mowing surrounding the building
- seasonal watering of landscape plantings
- regular garbage and recycling service
- repairs and replacement of damaged equipment and facilties

## 4.I Trail Surfaces

Trail surfacing options are further described above in the Land Use/Development Plan. Trails, whether constructed of wood chips, bark or crushed rock, require some maintenance to keep them safe and useable. The surfacing will erode through use and, possibly, due to seasonal flooding. Depending on the care and design used for initial construction, trails over soft ground may subside with time or become potholed in muddy sections. Repair and replenishment of the surfacing material will be necessary. Trails within open/field areas should be constructed with a base of gravel to maintain their viability and minimize maintenance long term. Experience over the last decade has shown the soft surface (hog fuel or bark) trails in the open/field areas of Meadowbrook Farm disappear in a very short time, due to re-growth of grasses and extensive churning by elk and other wildlife during the wet season.

Trails are also subject to invasion by plants and weeds, particularly along the edges, and will require suppression to maintain the condition of the trail. Two options are available: mechanical removal and herbicide application. Mechanical removal may be necessary for trails in the agricultural areas, for the organic certification to be maintained. In other areas, herbicides should periodically be applied as necessary to minimize re-growth and weeds within the trail bed.

Trails through wooded and shrubby areas will require periodic pruning of edging and overhanging growth. Typically, one spring cleanup would be sufficient, except in the most densely vegetated wetland areas.

## 4.J Landscape Management/Maintenance Schedule

The following schedule summarizes the recommendations from the previous sections of this chapter, and represents the recommended plan for managing and maintaining the landscape at Meadowbrook Farm consistent with the goals and objectives of the Meadowbrook Farm Master Plan. Figure G depicts the recommended maintenance strategies for various areas of the Farm. An annual work program will need to be prepared consistent with the following schedule, taking into account regular maintenance needs, as well as periodic longer-term activities as the need arises.

**Regular Activities (monthly or more during the growing season)**

1. Weekly janitorial cleaning of Interpretive Center
2. Weekly mowing of the lawn area surrounding the Interpretive Center building, as needed.
3. Twice-monthly mowing of the Interpretive Center Events Field.
4. (Cities) Twice-monthly mowing between trail and road shoulder on Boalch/Park Street.

**Semi-Annual Activities (2-4 times a year)**

1. Weeding and watering of landscape areas surrounding the interpretive center building.
2. April -Smoothing of mole mounds.
3. May and July - Edge Control, using a brush hog or other equipment at the perimeter of all maintained meadows and fields, to prevent encroachment of blackberries and other invasives.
4. Meadow mowing of hay/greenchop and prairie areas, as depicted on Figure G (and additional as needed for areas available for events).
5. (Cities) mowing along SR-202 shoulders to maintain visibility and prevent elk collisions.
6. Quarterly deep cleaning of Interpretive Center building.
7. Twice-yearly window cleaning and dusting of beams.

**Annual Activities (at least once a year)**

1. April – Re-stringing of hop vines on posts at Interpretive Center entry.
2. April - Interpretive Center building repairs (gutter cleanout, sealing, etc.)
3. June - re-sealing of Interpretive Center doors and building sign.
4. June - Concerted weed-control effort (volunteer or paid contractor), to remove invading blackberry, holly, scotch broom (before it seeds), and other invasive species not regularly addressed by edge control activities.
5. June or July - Applying herbicide to trails to prevent weed growth within the trail bed, and pruning overgrowth surrounding the trail corridor.
6. October - Winterizing Interpretive Center building in fall (removing exterior hoses).
7. Annual Interpretive Center septic system, alarm system, and fire inspections.

**Periodic Activities (once every 2-5 years)**

1. Clearing/manual shrub extraction in areas depicted on Figure G intended to be converted back to meadow.
2. Control of moles, as necessary.
3. Volunteer reforestation efforts, to supplement growth of native species within habitat enhancement areas.
4. Ditch and culvert cleanout, subject to applicable permits and approvals.
5. Trail re-grading or material replenishment, in areas as necessary to maintain condition of trail surface.
6. Plowing, harrowing and re-seeding of field areas to prevent encroachment of weed species within the field grasses.


# Meadowbrook Farm

## Cities of Snoqualmie & North Bend, WA

**Legend**

- Railroad
- Snoqualmie Valley Trail
- Meadowbrook Farm Boundary

1. "Meadow" Mowing
2. "Short Grass" Mowing
3. Convert back to Meadow
4. Reforestation
5. Channel Restoration
6. Ditch for Access Control
★. Ditch/Culvert Maintenance

N W E S

Oct. 8th, 2013
1 inch = 700 feet

**Figure G**
**Site Maintenance Plan**

## 5.A Introduction

As provided in the Interlocal Agreement among the City of North Bend, the City of Snoqualmie, and the Meadowbrook Farm Preservation Association (ILA), the Meadowbrook Farm Preservation Association is responsible for the day-to-day management and operation of Meadowbrook Farm consistent with the Meadowbrook Farm Master Plan. This chapter addresses operations and management of Meadowbrook Farm, as well as guidance on revenue generation, staffing, and implementing the planning and budgeting for the Farm. Duties and responsibilities of the cities of North Bend and Snoqualmie to Meadowbrook Farm and the Meadowbrook Farm Preservation Association are governed by the ILA.

## 5.B Duties and Responsibilities of the Meadowbrook Farm Preservation Association

### 5.B.1. Authorizing and Scheduling Activities

The Preservation Association is responsible for authorizing and scheduling temporary activities and uses of the farm, consistent with the Use and Operations Rules established in Appendix B of this Master Plan, and in coordination with any Special Event Permit requirements applied by the city in which the event is held. The Preservation Association may perform the scheduling of activities via a separate agreement with a contracted staff person or organization tasked with this action.

### 5.B.2 Activities and Events Programming and Marketing

The use of Meadowbrook Farm by groups and events is key not only to ensuring public enjoyment and appreciation of the farm, but also for providing revenue for its stewardship and operation. A primary management goal of the Preservation Association is to strike an appropriate balance between recruiting and scheduling uses that generate revenue and promote tourism, and offering uses that focus on interpreting the human and natural history of Meadowbrook Farm and carrying out the mission of the Master Plan.

The Preservation Association will develop a Marketing Plan to identify and recruit potential users of the farm for weddings, special events, classes, day camps, field trips and other activities consistent with the Master Plan. Marketing activities will follow from the Branding Statement identified in Chapter 1. Marketing may take the form of developing promotional media on the Farm and its users, linking the farm's website and promotional materials to other regional websites, promoting the farm in visitor guides and wedding and event expos, and communicating the values and use of the farm to its intended audience. The Marketing Plan may also inform amendments to the Master Plan and Capital Improvements and Facilities Plan for improvements that increase the attractiveness of Meadowbrook Farm facilities to likely users.

Educational and interpretive programming will rely heavily on available volunteers, as well as partnerships with other cultural organizations such as the Snoqualmie Tribe, the Snoqualmie Valley

Historical Museum, and the Mountains to Sound Greenway Trust. Educational and interpretive materials on Meadowbrook Farm and its resources should be developed for use by the Preservation Association and other volunteers for periodic classes, field trips, and the like.

### 5.B.3 Implementation of this Master Plan

The Preservation Association and city staff will be responsible to implement this Master Plan and its associated Capital Improvements and Facilities Plan, including periodic updates as necessary to address changing circumstances and the completion of projects. Amendments to the Master Plan must be approved by the Association and the City Councils of both cities. Amendments to the Capital Improvements and Facilities Plan may be made by the Preservation Association without specific approval by the cities, so long as such amendment is consistent with the Meadowbrook Farm Master Plan.

### 5.B.4 Capital Improvements and Development

The Preservation Association will manage the development and improvement of Meadowbrook Farm consistent with the Capital Improvements and Facilities Plan and consistent with the overall purpose and intent of the Meadowbrook Farm Master Plan. This will include management of grant agreements, contracts and work assignments, and securing required development permits for such work. City staff may assist with the coordination of development activities, particularly with regard to grants for projects on Meadowbrook Farm that are on the City's Park Capital Improvements Plan.

### 5.B.5 Maintenance

The Preservation Association will oversee maintenance of the land, facilities and equipment of Meadowbrook Farm, with shared maintenance responsibilities as established under the Interlocal Agreement. Maintenance includes regular mowing of fields and lawn areas, and regular upkeep, maintenance and repair of the Interpretive Center Building, trails, bridges, and other facilities on Meadowbrook Farm property as further described in Chapter 4 of this Master Plan. Maintenance also includes the upkeep and repair of vehicles and other equipment owned by the Association. The Preservation Association may enter into separate agreements or contracts with individuals, the cities, or other organizations for property or equipment maintenance and field mowing or other agricultural use arrangements.

### 5.B.6 Budget Preparation and Management

The Preservation Association will prepare and manage an annual budget inclusive of all development, maintenance, and programmatic activities scheduled within each year. Guidance for management of the budget is found under section 5.G of this Chapter.

### 5.B.7 Archival Records

The Preservation Association will maintain records of Association transactions, decisions, and minutes of meetings. The Association will also collect and maintain photos and other records regarding historical

use of Meadowbrook Farm (in association with the Snoqualmie Valley Historical Museum) for the purpose of recording and interpreting the history of the property.

## 5.C Special management/maintenance agreements

Special agreements may be established between the Preservation Association and the cities, the Si View Metropolitan Parks District, and other organizations, for shared or contracted management or maintenance activities. Such activities may include management of the building and facilities, mowing or other property management, and human resources/management support of staffing hired by the Preservation Association.

## 5.D Contracting and Contractual agreements

The Preservation Association may enter into contracts with individuals for work on the farm or for use of the property consistent with the Master Plan. For any contractual work on the Farm to be done in an amount of $7,500 or greater, the Preservation Association should solicit and consider at least three proposals for the work prior to awarding a contract. The Preservation Association is not obligated to accept the lowest estimate. Contractors performing work on Meadowbrook Farm shall provide the Preservation Association with liability and insurance coverage. The Preservation Association shall establish minimum insurance requirements.

## 5.E Revenue

Critical to the long-term stewardship of Meadowbrook Farm are predictable sources of revenue to cover the planned development, maintenance and programming activities at the farm as provided in this Master Plan. Revenue for Meadowbrook Farm is anticipated to come from the four principal sources identified below.

Property Use Revenue. Rental revenue from events and activities is anticipated to be a major source of operating revenue to Meadowbrook Farm. The Preservation Association will maintain a fee schedule for public and private events, with reduced rates established for non-profit uses.

City Commitments. Commitments from the cities to the Meadowbrook Farm Preservation Association are as provided in the Inter-local Agreement among the cities and the Association. The Inter-local Agreement should recognize the importance of Meadowbrook Farm as an open space and recreational resource for City residents and the maintenance, operation and staffing needs of this resource in establishing funding and other commitments, and should provide for periodic adjustments to funding commitments to account for inflation.

Grants. Grants are anticipated to be a large part of the funding source for capital improvements to the farm. Grants may be administered by the Preservation Association or by the cities, depending on the project. Projects on the Capital Improvements Plan should be on the Parks Capital Facilities Plan of the respective city in which the project is located for maximum grant funding eligibility.

Fundraising. Fundraising activities and campaigns may be used to supplement revenue, particularly for special projects, but should be secondary to the above primary sources due to the large level of staffing and coordination required for fundraising. Key to fundraising is effective communication of the values of the farm to its audience and potential donors, and communication of clear goals for progress and use of funds.

## 5.F Capital Improvements and Facilities Plan

A capital Improvements and Facilities Plan will be maintained by the Preservation Association. The CIP will include a prioritized list and brief description of proposed projects necessary to implement the Meadowbrook Farm Master Plan, as well as other major capital facility expenditures by the Association. The Preservation Association will update the Capital Improvements and Facilities Plan on a periodic basis to account for completion of projects and consideration and prioritization of new projects and capital expenditures.

## 5.G Annual Work Program and Budget

The Preservation Association will prepare an annual work program and budget, inclusive of all anticipated revenue and expenditures for the following year. The work program and budget will be scaled according to anticipated annual revenue, and should provide an annual reserve to build toward future projects identified in the Capital Improvements and Facilities Plan. Work Program and Budget activities should following the following schedule:

1. June - Preparation of draft work program for the following year, inclusive of maintenance projects consistent with Chapter 4, programming and marketing activities, and planned activities and expenditures from the Capital Improvements and Facilities Plan anticipated in the following year.
2. July – Preparation of draft budget for the following year including anticipated revenue and expenditures. Expenditures should include all expenses from the draft work program, funding for staffing and professional services, insurance, utilities, and other like costs, contractual payment obligations, reserve for future projects, and any other anticipated expenditures.
3. July - presentation of draft budget to Meadowbrook Farm Preservation Association board of directors. Adjustments as necessary.
4. August – submittal of adjusted draft budget and annual report to cities consistent with Interlocal Agreement obligations.
5. Prior to end of year – Approval of final work program and budget by Meadowbrook Farm Preservation Association board of directors.

## 5.H Staffing

As use of Meadowbrook Farm continues to grow, the directors of the Meadowbrook Farm Preservation Association will need to assume a broader guidance and advisory role and assign more day-to-day management activities to paid staff. In addition to staffing needs for scheduling uses, accounting,

budgeting, and overseeing maintenance activities, staffing is also required for communication, publicity and marketing of the farm to potential users. Staffing may be in the form of contractual agreements with other organizations, such as the Si View Metropolitan Park District, or dedicated staff hired by the Preservation Association to carry out these activities.

# Appendix A

## Preservation Association Development/Management Philosophy

**Developed by the Meadowbrook Farm Preservation Association**

This appendix contains a summary of policy statements developed in 1999 by the Meadowbrook Farm Preservation Association. These policies were closely followed in developing the original Master Plan report. While some of the information in the policy statements below is now out of date, the 2013 updated Master Plan remains consistent with the intent of these policy statements.

Site development and management policies:

The Meadowbrook Farm Preservation Association has set forth detailed policies for potential uses and development as described below:

1. **Site Use**
    a. Trails
        i. Provide public pedestrian, bicycle and equestrian access to meadows, public areas, etc. through permeable surface trails, with connectors to the King County Regional Trail system.
    b. Habitat
        i. Provide wildlife habitat and corridors
        ii. Preserve and enhance wetlands
        iii. Provide active stewardship of ecosystems through: mowing, treeline maintenance, reintroduction and encouragement of native and historic species, invasive species control, enhancement of raptor habitat.
    c. Interpretive Facilities
        i. Provide interpretive facilities and information for natural, geological and human features of significance. This includes agricultural, European, Native American uses and how these uses reflected these cultures' way of life. Include major land shaping uses such as farming, logging and railroads. Interpretation shall be accomplished by publication, signage, and programs including living history demonstrations and designation of dedicated sites for heritage interpretation.
        ii. Encourage interpretive use by schools, museums and other groups.
        iii. Provide a climax forest interpretive area, a 200 year project with enhanced forest succession.
    d. Recreation and Special Events
        i. Accommodate special event community gatherings (festivals, valley picnics, arts, live events, etc.)
        ii. Provide a natural amphitheater for public events, connected to a "community gathering place."

iii. Allow special interest/public viewing events: carriage driving events, kite fly-ins, antique farm equipment meets, trailhead for John Wayne Trail wagon ride, etc.
iv. Other passive recreation al events in accordance with funding restrictions.

e. Access control
   i. Access to the site shall be permit or use agreement for appropriate local or regional interest groups (theater, living history, school district natural history and history classes, equestrian events, scouting events, annual bird counts, etc.)
   ii. Preclude internal combustion engines without a specific event permit on the Meadowbrook property other than those used by maintenance personnel.

f. Agriculture
   i. Continue on-site agriculture, with possible expansion to resident dairy herd replacement.

**2. Basic Maintenance**

The following activities are envisioned to maintain current appearance. The purpose of the actions in this section is to continue the open meadow appearance, which has been a continued feature of the site since prehistory.

a. Mowing (partly covered by agreement with Bill Venn at present.) Future needs for more finely tailored mowing for events and to fit specific landscapes and replanting/undesirable plant control efforts. Also to address approach after Mr. Venn's retirement.
b. Maintain tree lines adjacent to fields.
c. Provide damage control following floods, windstorms, and other affecting natural events.

**3. Maintenance to support public use**

a. Provide trash pick-up, vandalism repair
b. Maintain trail surfaces after establishment. Assumes low speed, low impact materials, including replenishment of trail surfacing material, weed control in trails, maintaining tree lines adjacent, tidying trail edges.
c. Maintain bridges, signage, benches, and other trail features after establishment.
d. Maintain parking, restroom or portable toilet facilities and other site-related built environment and utilities after establishment.

**4. Site Development Issues**

The following maintenance, operation and development issues will require planning, probable fundraising, and coordination of paid and volunteer efforts to bring about:

a. Management to support public use
b. Established salary and support for a Meadowbrook Farm Administrator/Ranger Position.
c. Coordinate with law enforcement and fire fighters.
d. Coordinate support from cities of Snoqualmie and North Bend as well as King County.

e. Encourage/participate in publications, meetings, networking to provide outreach for public access and participation.
f. Manage appropriate control and modification of natural systems (re-introduction of native and historic species, introduce pest plant control, establishment of arboretum and climax forest areas.)
g. Site improvements to support public use
h. Develop access to existing trails.
i. Develop new trails on site.
j. Develop access to incidental and necessary parking/transportation use of school parking and other sites, including partnership with King County's Three-Forks Park and multi-modal transportation systems.
k. Develop new parking.
l. Develop bridges, platforms, and other trail related structures.
m. Develop appropriate river access.
n. Develop signage for safety, facility information, interpretation.
o. Develop special use areas and structures: living history station with hop yard, barn and orchard, course markers for equestrian events, stage for amphitheater, playfields, public art site.
p. Construct appropriate utility access.

**5. Specific Site Development Policies**

As planning has moved forward, some issues have become clarified through meetings as indicated below:

a. The appearance of the site as a "working farm agricultural landscape" should be maintained.
b. Views from the site, which provide a glimpse of "how things looked" in a historical period, should be developed if and where possible.
c. Flooding will affect siting and design of structures; facilities, which need to be dry, must be placed on high ground.
d. Perimeter security will be required as an early measure to restrict motorized vehicle access. Three rail fences of hop poles may be an appropriate style.
e. Wetland buffers/critical area ordinances and requirements of the Cities of Snoqualmie and North Bend should be utilized in project planning.
f. A plan needs to address the best location for:
    i. Parking
    ii. Maintenance Facility
    iii. Heritage Education Facility: An interpretive shelter/building is desirable. Initially, this may provide only weather shelter, limited displays, restrooms and lecture/meeting space. A typical user group would be a school field trip. The building should be located and designed in accordance with the following criteria:
        1. Minimize negative effects on the "viewscape" or enhance views.
        2. Utility Service (sewer, water and power) should be economical to provide.
        3. Access for vehicles and busses is needed.
    iv. Community Outdoor Gathering Place

v. A modest outdoor amphitheater that is visually unobtrusive, respects existing land forms and viewsheds, yet provides permanent seating for Upper Snoqualmie Valley community gatherings and events.
vi. Field for large events
vii. Active athletic fields should not be developed on site but this activity should be allowed on an informal basis.

# Appendix B

## Meadowbrook Farm Use and Operations Rules

Developed by the Meadowbrook Farm Preservation Association

1. Restrictions

1.1 The Site shall be open for normal public access from 8AM to 10 PM 365 days per year except as otherwise specified by event or program permits, for uses such as astronomical observations which require nighttime use, or as required for maintenance or public safety.

1.2 No camping will be allowed on the farm except as part of scheduled events which are supervised by a designated event coordinator and approved by the Meadowbrook Farm Preservation Association (the Association).

1.3 No operation of internal combustion engines or mechanically powered vehicles and equipment will be allowed on Meadowbrook Farm except as part of property maintenance, construction projects, and agricultural use by agreement, or as specifically outlined in event or program permits (e.g. generators, field parking).

1.4 No hunting will be allowed on Meadowbrook Farm except for animal control operations conducted by government agencies or with permission of the Association.

1.5 No removal of wood or other plant material will be allowed from Meadowbrook Farm except by specific permission of the Association or as part of normal agricultural operations by parties having agricultural use agreements.

1.6 No use of explosives, incendiaries, or discharge of firearms will be permitted on Meadowbrook Farm except by government officers in performance of their duty, or for scheduled events approved by the Association.

1.7 No fires will be permitted except as part of permitted events or as part of agricultural activities permitted by the Association and appropriate fire safety officials.

1.8 All activities and events permitted on Meadowbrook Farm shall be subject to the noise regulations in affect by the Cities. No amplified sound will be permitted on Meadowbrook Farm except as part of permitted events or programs. Sound levels may be controlled or regulated during events and programs by law enforcement officers if in violation of the applicable City's noise regulations or conditions of the applicable special events permit.

1.9 Site events must be concluded by 10pm except for permitted overnight camping, unless as otherwise approved by the Association.

1.10 No artificial lights will be allowed on Meadowbrook Farm except for maintenance, emergency, and agricultural vehicle lights, standard bicycle lights, hand held flashlights, and except for lighting as used as part of permitted events and programs. Artificial lighting for events and programs shall be used only between dusk and 10pm or to facilitate safe exit of persons attending events.

1.11 Dumping, littering, vandalism, other destruction of public property shall be posted as prohibited.

1.12 Unauthorized camping, fires, firearms, hunting, manned aircraft, off-road motor vehicle use, and access to sensitive areas shall be posted as prohibited.

1.13 Parking shall be limited and managed by the Association in location and number of spaces in accordance with the Master Plan. Parking will be allowed only in designated areas.

1.13.1 Arrangements should be sought for use of adjacent public parking, (e.g. adjacent schools, Youth Activity Center property, and Centennial Fields Park) when possible.

1.13.2 To prevent erosion, compaction and other degradation of the property, field parking shall be limited, and on those upland areas and at times determined to be suitable.

1.13.3 Parking shall not be permitted on Meadowbrook Farm for events not occurring at least in part on the site (example: parking and start/staging area for a cross country footrace may be considered, even though part of the course may be off Meadowbrook)

1.14 Parking, portable toilets, and other facilities shall be sited and designed to be in scale with the open space, passive recreation, habitat preservation and viewshed missions of the property.

1.15 Uses shall be in accordance with restrictions of acquisition funding and with interlocal agreements adopted by the owner/cities (Snoqualmie and North Bend) as reflected in the Master Plan.

1.16 Signs shall only be allowed on site as needed for site management and public information regarding the farm. All signs shall be approved by the Meadowbrook Farm Preservation Association or shall comply with guidelines developed and adopted by the Association.

1.17 City ordinances regarding sale, possession, and consumption of alcoholic beverages shall apply to Meadowbrook Farm.

2. Permitting/scheduling guidelines

2.1 A Meadowbrook Farm Preservation Association Use and Event Committee will be established, including both city staff Board members, which has the authority to prioritize and schedule or refuse public or restricted events and programs in accordance with:

-These guidelines and restrictions

-The Meadowbrook Farm Master Plan as approved by both Cities

- Applicable laws, including use stipulations included in acquisition funding agreements.

2.2 For events and uses included in the *List of Potential Scheduled Activities* (located at the end of this appendix) which contain fewer than 250 participants, the Use and Event Committee or their designee may approve the use or refer it to the full board for a decision, in consideration of 2.1 above. The Use and Event Committee may not deny said uses, but may make a recommendation of denial to the full Meadowbrook Farm Preservation Association board, which may vote to approve or reject the recommendation at its next regular meeting.

2.3 For events and uses not included in the *List of Potential Scheduled Activities*, and for all uses with 250 participants or more, the Use and Event Committee shall report its recommendation on approving or refusing the event or program to the full MFPA board (which may occur via email). The full Meadowbrook Farm Preservation Association board may vote at its next regular meeting to accept or reject the recommendation of the Use and Event Committee, in consideration of 2.1 above, or may vote by email.

2.4 Outdoor events may be scheduled from May 15 through September 30, or as otherwise approved by the Association consistent with protecting the property from damage due to field rutting or other weather-related impacts.

2.5 Priority will be given to events and programs that promote public education about property resources and support the stewardship mission.

2.6 For events, an event coordinator shall be designated by the proponent of the event that will serve as the primary point of contact for planning and managing the event.

2.7 For events of over 250 participants that are beyond the scale and nature of a typical event, as generally understood via the *List of Potential Scheduled Activities*, the event coordinator shall meet with the Association (OR Event

Committee) a sufficient time ahead of the event to plan for event logistics including field use, parking, mitigation measures, and any other special arrangements as necessary on the farm that are not addressed by the applicable City's special events permit.

2.8 The Meadowbrook Farm Preservation Association Use and Event Approval process may facilitate, but will not substitute for, the permit process of the Cities. City special events permits for public lands and rights of way will be required.

2.9 The event or program proponent will be responsible for obtaining all legally required permits (food service, liquor, etc.)

2.10 A calendar will be kept by the board or their designated representative using the following guidelines:

2.10.1 First priority will be given to uses sponsored or originated by the Cities and the Association.

2.10.2 After scheduling events sponsored directly by the owner/cities and the Association, events will be scheduled on a first come-first served basis, so long as the use or event is consistent with 2.1 above.

2.10.3 The calendar will be filled around the annual cycle of City, Association, and community events.

2.10.4 Any issues regarding political inappropriateness or freedom of speech issues or other potential controversies may be referred to city attorneys.

2.11 To prevent over-use and resource damage, use levels may be adjusted by the Association as a result of impact on soils, plants, animals, or due to emergent logistical issues, etc.

2.12 Permitted events shall have priority over normal public access in permit areas only.

2.13 Due to a limited period of predictable good weather, maintenance and agricultural activities may be performed at the same time as permitted activities, with coordination of trail maintenance, mowing, manure spreading, etc.

3. Fees

3.1 Fees will be charged for use of public event areas. Fees will be reviewed annually by the Association and revised as appropriate. A fee scale will be developed for the areas listed below:

-- Interpretive Center Building

--The Interpretive Center Event Field

-- The entire Central Meadow

-- Use of other areas of the farm (may be arranged on a case-by-case basis)

3.2 Fees do not include Sani-Can rental, garbage pick-up, security, insurance, special mowing arrangements, or other services, only site rental.

3.3 There shall be no site rental fees for City or Association direct sponsorship events.

4. Other rental requirements

4.1 Events shall have time limits of one week, plus setup and takedown, unless otherwise approved by the Association and consistent with public use of the farm. Setup and takedown time shall also be considered paid rental days. Penalties may apply if takedown time exceeds that established in the property rental contract.

4.2 Classes and small programs shall have time limits based on an as-needed basis.

4.3 The Association may attach any special conditions deemed appropriate or revoke any permit with refund if inappropriate site use is in evidence.

4.4 Users must remove all litter, dump nothing, and repair any damage.

4.5 Users must secure North Bend and/or Snoqualmie Special Events Permit in advance of event, which addresses traffic control, security approval, public and emergency services, noise limits, insurance coverage, waste management, and bonding requirements among other issues.

4.6 Any goods or services sold during events must directly tie to the event (e.g. food and drink for spectators and participants, programs, equipment for participating, memberships, publications, posters, or other memorabilia for sponsoring organizations.) Vendors for completely unrelated merchandise at any event are not allowed.

4.7 Vendors, including any other groups doing business on the farm, must apply for a business license at the applicable City.

4.8 Leasing or use agreements for agricultural use of areas of the property in exchange for payment to the Association in cash or in kind may be considered.

List of potential scheduled activities:

*The following list is only an illustration of possible uses on the site, and is not intended to restrict uses not listed. Other type of applications will be reviewed for compatibility to Meadowbrook Farm.*

Foot or bicycle events and races, including temporary obstacle courses
Powwows
Company (or service club, etc.) picnics and parties for members and guests
Class reunions
Weddings/receptions
Memorials
Campouts by scouts, schools, and other organized groups, youth and adult
Birding
Classes (art, photography, ecology, history, etc.)
Theater or musical performances (no permanent infrastructure)
Kite flying meets
Small circus
Active agriculture
Equestrian or dog events
Astronomical observations
Other public gatherings as allowed by cities on other open space properties and in other park buildings

List of potential unscheduled activities:

Picnics
Walks
Dog exercise
Unofficial sports (no permanent infrastructure)
Flying kites and kite-flying meets
Unmanned/RC aircraft flying
Running
Riding horses
Bicycling
Sitting in grass
Star watching
Birding (and other ecological observation)
Other activities as allowed by cities on other open space properties
Events of a similar nature and impact to those above.

# Appendix C
# Soils Map and Information

The visual and use characteristics of the Meadowbrook Farm Site reflect the distribution and nature of soils on the site. Major existing open pasture and grass areas east of Highway 202 and west of Meadowbrook-North Bend Road are underlain by well drained silt loam soils while wet forested areas in the center of the site and around the edges of fields are underlain by poorly drained, mucky organic soils. Generally, the well drained soils on site are suitable for supporting the full range of uses being contemplated including recreation, agriculture, parking, buildings and management to preserve open meadows by mowing or burning. The poorly drained soils in the lower areas on site have far more limited suitability. They may be preserved as natural wetland and forest areas or may be managed by burning. Access by equipment and people may be limited to the dry late summer and early fall months.

Soils found on the Meadowbrook farm site and their general characteristics are described in the Soils Characteristics table. The general suitability of soils on site for various proposed uses is illustrated below:


Highway 202
North Bend Way
Boalch Ave
South Fork
Snoqualmie River
Ed
Pu
Nk
Sk
Ord
Sh
Sa
So
MEADOWBROOK FARM
CITIES OF SNOQUALMIE AND NORTH BEND, WA
RCA/HUITT-ZOLLARS
LEGEND
ED EDGWICK SILT LOAM
NK NOOKSACK SILT LOAM
OVD OVALL GRAVELLY LOAM
PU PUGET SILTY CLAY
SA SALAL SILT LOAM
SH SHALCAR MUCK
SK SEATTLE MUCK
SO SNOHOMISH SILT LOAM
JUNE 1998
SCALE: 1" = 700'
FIGURE H
TITLE
SOILS
NORTH

## Meadowbrook Farm Soils, Suitability for Proposed Uses

| Soil series and map symbol | Mowing for Open Meadow | Commercial Agriculture | Parking & Buildings | Forest/ Natural Area | Recreation Athletic Fields |
|---|---|---|---|---|---|
| Edgwick: Ed | High | High | High | High | High |
| Nooksack: Nk | High | High | High | High | High |
| Puget: Pu | Low | Low | Low | High | Low |
| Salal: Sa | High | High | High | High | High |
| Seattle: Sk | Low | Low | Low | High | Low |
| Shalcar: Sh | Low | Low | Low | High | Low |
| Snohomish: So | Low | Low | Low | High | Low |

## Meadowbrook Farm Soils, Characteristics[1]

| Soil series and map symbol | Formation | Surface layer | Underlying layers |
|---|---|---|---|
| Edgwick: Ed | Well-drained soils formed in alluvium, under conifers and grass. | Sandy loam to 34 inches. | Gravelly sand and gravelly sandy loam to 60 inches or more. |
| Nooksack: Nk | Well-drained soils formed in alluvium, under grass, conifers and hardwoods. | Silt loam to 60 inches or more. | |
| Puget: Pu | Poorly drained soils formed in alluvium under sedges and grass in small depressions. | Silty clay to 45 inches. | Silty clay to 60 inches. |
| Salal: Sa | Well-drained soils formed under grass, in alluvium on flood plains. | Silt loam to 60 inches or more. | |
| Seattle: Sk | Very poorly drained organic soils that formed in material derived from sedges in depressions. | Black muck to 11 inches. | Muck and mucky peat to 60 inches or more. |
| Shalcar: Sh | Very poorly drained organic soils formed in deposits of sedge peat. | Brown muck to 14 inches, over five inches of silt loam, over five inches of brown muck. | Silt loam and loamy sand to 60 inches or more. |
| Snohomish: So | Poorly drained soil formed in alluvial deposits of diatomaceous material. | Silt loam about 10 inches thick over about 19 inches of silt and fine sandy loam. | Black muck to 60 inches or more. |

[1] Soil Survey, King County Area Washington USDA, 1973

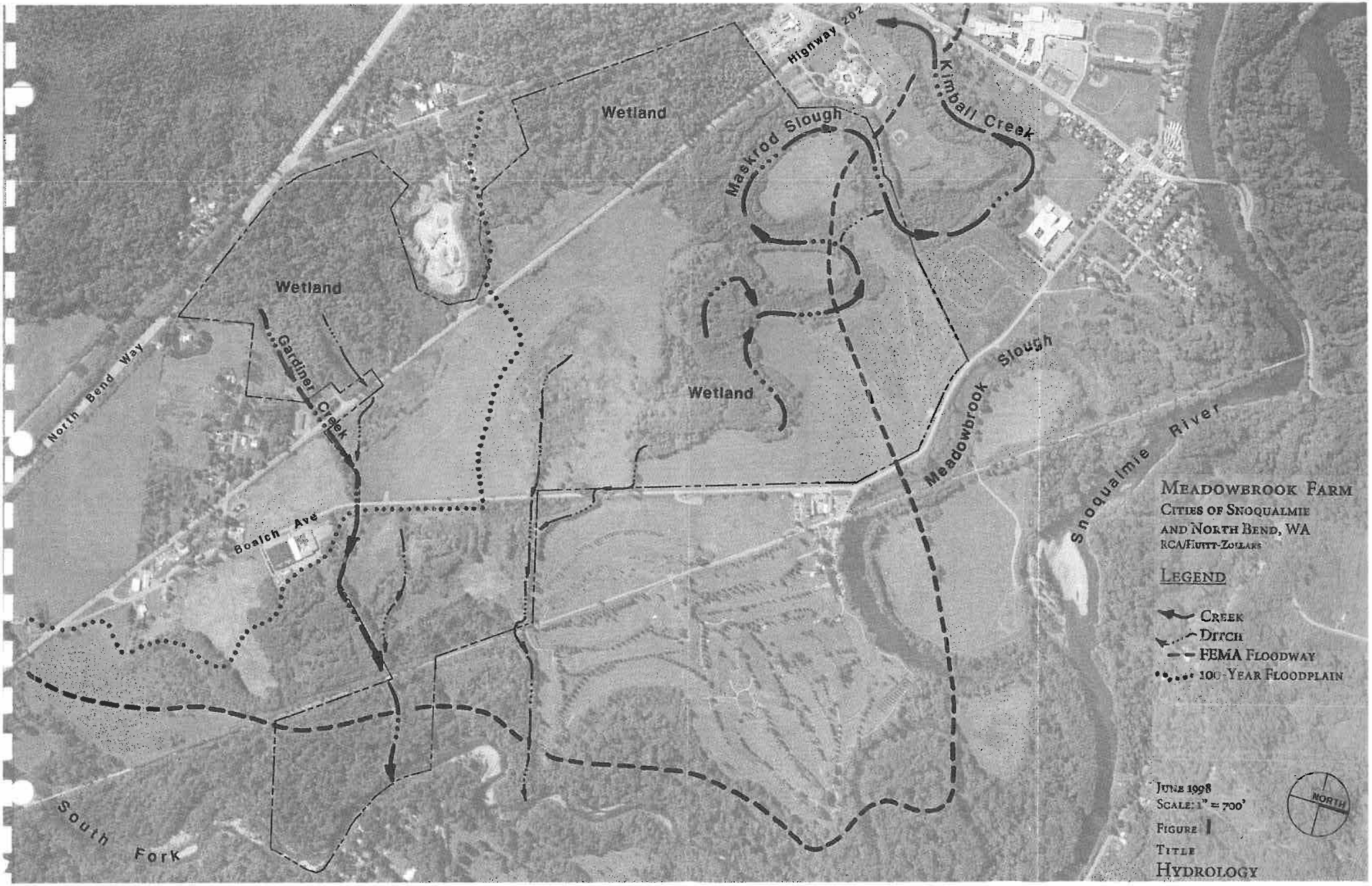
Soils found on the Meadowbrook Farm site and their degree and limitations for recreational uses are described in the following table[2]

## Meadowbrook Farm Soils, Degree and Kind of Limitations for Recreational Uses

| Soil series and map symbol | Playgrounds | Camp Areas | Picnic Areas | Paths and Trails |
|---|---|---|---|---|
| Edgwick: Ed | Moderate: flood hazard. | Moderate: flood hazard. | None to slight. | None to slight. |
| Nooksack: Nk | Moderate: flood hazard. | Moderate: flood hazard. | None to slight. | None to slight. |
| Puget: Pu | Severe: poorly drained. | Severe: poorly drained. | Severe: poorly drained. | Severe: poorly drained. |
| Salal: Sa | Moderate: flood hazard. | Moderate: flood hazard. | Moderate: flood hazard. | None to slight. |
| Seattle: Sk | Severe: very Poorly drained; organic soil. | Severe: very Poorly drained; organic soil. | Severe: very Poorly drained; organic soil. | Severe: very Poorly drained; organic soil. |
| Shalcar: Sh | Severe: very poorly drained; organic soil. | Severe: very poorly drained; organic soil. | Severe: very poorly drained; organic soil. | Severe: very poorly drained; organic soil. |
| Snohomish: So | Severe: poorly drained; flood hazard. | Severe: poorly drained; flood hazard. | Severe: poorly drained. | Severe: poorly drained. |

[2] Soil Survey, King County Area Washington USDA, 1973

# Appendix D
# **Hydrology Map**


Highway 202
Kimball Creek
Wetland
Maskrod Slough
Wetland
Gardiner Creek
North Bend Way
Wetland
Meadowbrook Slough
Snoqualmie River
Beach Ave
South Fork
MEADOWBROOK FARM
CITIES OF SNOQUALMIE AND NORTH BEND, WA
RCA/HUITT-ZOLLARS
LEGEND
CREEK
DITCH
FEMA FLOODWAY
100-YEAR FLOODPLAIN
JUNE 1998
SCALE: 1" = 700'
FIGURE 1
TITLE
HYDROLOGY
NORTH

# Appendix E
# Habitat/Plant Communities Information


Highway 202
North Bend Way
Boalch Ave
South Fork
Snoqualmie River
UPMF
PFOIC
PSSC
UPD1
UPD2
UPAP
PEMC
PEMC(2)
UPSS
R3UBX
COMM2
UPC1
R3SB
MEADOWBROOK FARM
CITIES OF SNOQUALMIE
AND NORTH BEND, WA
KCA/HUTT-ZOLLARS
LEGEND
WETLANDS
FOR EXPLANATION OF SYMBOLS
SEE TABLE IN APPENDIX
JUNE 1998
SCALE: 1" = 700'
FIGURE J
TITLE
PLANT COMMUNITIES
NORTH

# Meadowbrook Farm Habitat Types

| PLANT COMMUNITY DESIGNATION | FEATURES | DESCRIPTION |
|---|---|---|
| **PEME** | **King County Habitat Type** | Fresh Water Marsh/Wet Meadow (palustrine, emergent, seasonally flooded/saturated) |
| | **Plant Species** | This plant community was once actively managed for farm crop and pasture production. Recent management activities appeared to have been reduced or eliminated. This wetland habitat was primarily vegetated by large stands of reed canarygrass. Occasionally small-fruit bulrush, softrush, slough sedge, and other typically wet grass species (i.e. water foxtail, velvet grass, redtop bentgrass, meadow foxtail) were found growing in areas of seasonal standing water. Willows and other shrubs (i.e. Douglas spiraea, rose) were forming occasional interspersed clumps within the emergent vegetation. |
| | **Wildlife Species** | This plant community provided feeding habitat for a wide variety of wildlife species. Observed avian species included barn swallow, tree swallow, violet green swallow, American robin, starling, common snipe, marsh wren, purple finch, yellow warbler, brown-headed cowbird, red winged blackbird, common mallard, Canada goose, American wigeon, and song sparrow. These birds appeared to seek nesting and cover habitats within adjacent shrubs and forested areas. Observed mammals included vagrant shrew, deer mouse, Townsend's mole, Townsend's vole, longtailed weasel, coyote, and black-tailed deer. Pacific tree frogs were also noted to use this habitat. |
| | **5-Year Site Condition With No Active Maintenance** | Without active maintenance this emergent wetland community will transition towards a community dominated by wet shrubs and sapling trees and then eventually into a mixed deciduous/ coniferous forest. Within five years this community will exhibit approximately 10 to 20% aerial coverage of shrubs and sapling trees. As the coverage of shrubs and sapling trees increases this plant community will begin to provide a greater availability of nesting, perching, and cover habitats. |

| PLANT COMMUNITY DESIGNATION | FEATURES | DESCRIPTION |
|---|---|---|
| PEMC(1) | **King County Habitat Type** | Fresh Water Marsh/Wet Meadow (palustrine, emergent, seasonally flooded) |
| | **Plant Species** | This plant community was once actively managed for farm crop and pasture production. However, this plant community retained a ponded surface water hydrology regime further into the early part of the growing season than did the PEME plant community. Recent management activities (i.e. ditch maintenance) appeared to have been reduced or eliminated. This wetland habitat was primarily vegetated by large stands of small-fruit bulrush, softrush, slough sedge, and other typically wet grass species (i.e. water foxtail, reed canarygrass, velvet grass, redtop bentgrass, meadow foxtail) are found growing in areas of seasonal standing water. In areas where deeper water was present, small distinct communities of common cattail were also present. Prolonged surface water ponding appeared to also reduce the invasion of willows and other shrubs (i.e. Douglas spiraea, rose) into this area. |
| | **Wildlife Species** | This plant community provided feeding habitat for a wide variety of wildlife species. Observed avian species included barn swallow, tree swallow, violet green swallow, American robin, starling, common snipe, marsh wren, purple finch, yellow warbler, brown-headed cowbird, red winged blackbird, common mallard, Canada goose, American wigeon, and song sparrow. These birds appeared to seek nesting and cover habitats within adjacent shrubs and forested areas. However, common mallard, marsh wren, and red winged blackbird was noted to be nesting within the cattail areas. Observed mammals included vagrant shrew, deer mouse, Townsend's vole, coyote, and black-tailed deer. Pacific tree frogs were also noted to use this habitat for spawning. |
| | **5-Year Site Condition With No Active Maintenance** | Without active maintenance this emergent wetland community will transition towards a community dominated by wet shrubs and sapling trees and then eventually into a mixed deciduous/ coniferous forest. Within five years this community will exhibit approximately 10 to 20% aerial coverage of shrubs and sapling trees. However, these shrubs and sapling trees will be initially limited to the areas of higher elevation. As the coverage of shrubs and sapling trees increases this plant community will begin to provide a greater availability of habitats. |

Emergent Wetland-seasonally flooded

**PEMC (1)**

| PLANT COMMUNITY DESIGNATION | FEATURES | DESCRIPTION |
|---|---|---|
| **PEMC(2)** | **King County Habitat Type** | Fresh Water Marsh (palustrine, emergent, seasonally flooded) |
| | **Plant Species** | This plant community was located within small depressional ponded areas along drainage corridors. This plant community was dominated by common cattail and exhibited a seasonal water depth between 1 and 6 feet. The depressional areas may have been formed by prior farm maintenance activities such as the creation of a farm pond within a natural drainage corridor. This plant community was boarded by wet shrub and forest plant communities. |
| | **Wildlife Species** | This plant community provided feeding habitat for a wide variety of wildlife species. Observed avian species included barn swallow, tree swallow, violet green swallow, American robin, common snipe, marsh wren, purple finch, red winged blackbird, common mallard, wood duck, Northern shoveler, American wigeon, and song sparrow. These birds appeared to seek nesting and cover habitats within adjacent shrubs and forested areas. However, a number of avian species appeared to be actively nesting in and around the cattails. Nesting activities were noted for marsh wren, red winged blackbird, and mallard within this area. |
| | **5-Year Site Condition With No Active Maintenance** | Without active maintenance this emergent wetland community will continue to be dominated by common cattail. However, this area will eventually transition towards a community dominated by wet shrubs and sapling trees and then eventually into a mixed deciduous/ coniferous forest. Within five years this community will exhibit approximately the same plant species diversity and complexity as presently observed. |

Emergent Wetland-seasonally flooded

**PEMC (2)**

| PLANT COMMUNITY DESIGNATION | FEATURES | DESCRIPTION |
|---|---|---|
| POWH | **King County Habitat Type** | Fresh Water Lake/Pond (palustrine, open water, permanently flooded) |
| | **Plant Species** | The habitat type was formed by an old river channel ox-bow located directly offsite of the northwest corner of the study areas. This channel ox-bow exhibited a direct surface water connection to the Snoqualmie River and retained an open water character throughout the year. This habitat type included rooted aquatic vegetation (i.e. yellow waterlily) and emergent vegetation (i.e. cattail) along the outer edges of the permanent ponding. The edges of this habitat type include a wide variety of shrubs and trees typically associated with wet site conditions (i.e. black cottonwood, Pacific willow, red alder, Sitka willow, Douglas spiraea). |
| | **Wildlife Species** | This plant community provided feeding habitat for a wide variety of wildlife species. Observed avian species included barn swallow, tree swallow, violet green swallow, common snipe, marsh wren, purple finch, red winged blackbird, common mallard, Canada goose, wood duck, Northern shoveler, American wigeon, pied-billed grebe, belted kingfisher, green-backed heron, and great blue heron. These birds appeared to seek nesting and cover habitats within adjacent, rooted emergent, shrub, and forested areas. Marsh wren, red winged blackbird, wood duck, mallard, ringed-neck duck, Canada goose, and pile-billed grebe were using this habitat type for nesting and brood rearing. Observed mammals included coyote and black-tailed deer along the outer edge of the wet areas. Pacific tree frogs, red-legged frogs, and bullfrogs were also noted to use this habitat. Since this habitat type exhibited a direct connection to the Snoqualmie River this area would also appear to be used by a number of fish species to include resident cutthroat trout and rainbow trout. |
| | **5-Year Site Condition With No Active Maintenance** | Without active maintenance this permanently flooded wetland community will continue to be dominated by yellow waterlily and common cattail. The outer edge of this area will eventually transition towards a community dominated by wet shrubs and a mixed deciduous/ coniferous forest. Within five years this community will exhibit approximately the same plant species diversity and complexity as presently observed. |

Open Water Wetland-permanently flooded

**POWH**

| PLANT COMMUNITY DESIGNATION | FEATURES | DESCRIPTION |
|---|---|---|
| PSSC | **King County Habitat Type** | Shrub Wetland (palustrine, scrub-shrub, seasonally flooded) |
| | **Plant Species** | This plant community appeared to have been at one time actively managed for farm crop and pasture production or actively managed to control the invasion of shrubs into adjacent farm areas. However, these areas have been allowed to go fallow and have reestablished with a dense shrub and sapling tree plant community. Observed species included dense stands of Pacific willow and Sitka willow well established standing water which was present through the early part of the growing season. Douglas spiraea and red osier dogwood were present in patches interspersed among the willow. The emergent plant strata appeared limited because of the dense shrub overstory. This plant community was generally located between forested wetlands and more actively managed wetland and upland areas. |
| | **Wildlife Species** | This plant community provided feeding habitat for a wide variety of wildlife species. Observed avian species included American robin, starling, common snipe, marsh wren, purple finch, yellow warbler, brown-headed cowbird, common mallard, white crowned sparrow, rufous-sided towhee, dark-eyed junco, willow flycatcher, varied thrush, Northern flicker, golden-crowned kinglet, bushtit, black-capped chickadee, black headed grosbeak, and song sparrow. Many of these birds appeared to also seek nesting and cover habitats within this plant community. Pacific tree frogs, red legged frogs, and Northwestern salamander were also noted to use this habitat. |
| | **5-Year Site Condition With No Active Maintenance** | Without active maintenance this wetland community will transition towards a community dominated by a mixed deciduous/coniferous forest. However, in the short term this plant community should shown little change. As the coverage of trees increases this plant community will begin to provide a greater availability of nesting, perching, and cover habitats (see PFOC below). |

Palustrine Shrub Wetland-seasonally flooded

**PSSC**

| PLANT COMMUNITY DESIGNATION | FEATURES | DESCRIPTION |
|---|---|---|
| PFOC | **King County Habitat Type** | Mixed Forested Wetland/Riparian Forest (palustrine, forest, seasonally flooded) |
| | **Plant Species** | This mixed deciduous/coniferous forest community included an overstory dominated by Western red cedar and Sitka spruce. Many of these conifer trees appeared greater than 80 years old. Deciduous trees include red alder and black cottonwood. The under story was densely vegetated with red osier dogwood, Pacific willow, salmonberry, Sitka willow, slough sedge, and skunk cabbage. This plant community was located primarily along drainage swale corridors the pass through the site. These forested areas were very densely vegetated and were inundated with standing water well into the first part of the growing season. The outer edges of this forest community were interspersed with deciduous forest areas, shrubs, and emergent wetland plant communities. |
| | **Wildlife Species** | This plant community provided feeding, nesting, and cover habitats for a wide variety of wildlife species. In addition, many standing and fallen snags were present within the plant community.<br><br>Observed avian species included American robin, yellow warbler, tree swallow, rufous-sided towhee, red-breasted nuthatch, white crowned sparrow, dark-eyed junco, willow flycatcher, varied thrush, Northern flicker, hairy woodpecker, pileated woodpecker, common crow, Western screech owl, golden-crowned kinglet, bushtit, and black-capped chickadee. Observed mammals included deer mouse, raccoon, coyote, and black-tailed deer. The forested area along the Snoqualmie River also exhibited a number of trails used by elk. Pacific tree frogs and Northwestern salamander were also noted to use this habitat. |
| | **5-Year Site Condition With No Active Maintenance** | In the short term this plant community should shown little change. The understory was well established with sapling and young Western red cedar and Sitka spruce. These young trees should replace the older trees over time. |

| PLANT COMMUNITY DESIGNATION | FEATURES | DESCRIPTION |
|---|---|---|
| **PFO1C** | **King County Habitat Type** | Deciduous Forested Wetland/Riparian Forest (palustrine, deciduous forest, seasonally flooded) |
| | **Plant Species** | This deciduous forest community was located primarily along drainage swale corridors that passed through the site. In addition, a number of active side channels of the Snoqualmie River meander through the site were dominated by this plant community. These forested areas were very densely vegetated and were inundated with standing water well into the first part of the growing season. The outer edges of this forest community were interspersed with shrubs and emergent wetland plant communities.<br><br>The forested overstory consisted of mature black cottonwood, red alder, and Oregon ash. In addition, numerous standing and fallen snags were present. The shrub strata included sapling deciduous trees, sapling Western red cedar, Sitka willow, Pacific willow, Douglas spiraea, and nootka rose. The emergent strata included skunk cabbage, small-fruit bulrush, reed canarygrass, and creeping buttercup. |
| | **Wildlife Species** | This plant community provided feeding, nesting, and cover habitats for a wide variety of wildlife species. Observed avian species included American robin, yellow warbler, brown-headed cowbird, white crowned sparrow, dark-eyed junco, willow flycatcher, varied thrush, Northern flicker, hairy woodpecker, pileated woodpecker, common crow, Western screech owl, golden-crowned kinglet, bushtit, black-capped chickadee, black headed grosbeak, and song sparrow. Observed mammals included deer mouse, raccoon, coyote, and black-tailed deer. The forested area along the Snoqualmie River also exhibited a number of trails used by elk. Pacific tree frogs and Northwestern salamander were also noted to use this habitat. |
| | **5-Year Site Condition With No Active Maintenance** | In the short term this plant community should shown little change. As the sapling Western red cedar and Sitka spruce begin to establish the plant community will transition into a mixed deciduous/coniferous forest and include a number of snags and fallen logs (see PFOC below). |

| PLANT COMMUNITY DESIGNATION | FEATURES | DESCRIPTION |
|---|---|---|
| **R3UBx** | **King County Habitat Type** | Mixed Forested Wetland/Riparian Forest (riverine, upper perennial, unconsolidated bottom, excavated) |
| | **Plant Species** | As a part of prior land use actions a number of small drainages had been excavated and channelized across the site. One of these channels was noted to run generally south to north along the eastern boundary of the site. Yellow flag iris was present in those portions of the channel that were deepest and exhibited slow moving flow. Skunk cabbage and big leaf avens were noted along the edges of the channel. Himalayan blackberry and evergreen blackberry dominate the disturbed areas and side-cast piles along the channel. The overstory was formed primarily by red alder trees approximately 10 to 20 years old. The age of these red alder trees suggests that the channel had not been excavated in the last 10 to 20 years. Additional species along the channel included black cottonwood, salmonberry, Indian plum, sapling big leaf maple, sapling Douglas fir, Sitka willow, and Douglas spiraea. |
| | **Wildlife Species** | The plant community along this channel provided feeding, nesting, and cover habitats for a wide variety of wildlife species. Observed avian species included American robin, yellow warbler, tree swallow, violet-green swallow, rufous-sided towhee, white crowned sparrow, dark-eyed junco, varied thrush, Northern flicker, hairy woodpecker, pileated woodpecker, common crow, bushtit, and black-capped chickadee. Observed mammals included deer mouse, Townsend's vole, Townsend's mole, beaver, raccoon, coyote, and black-tailed deer. Pacific tree frogs were also noted to use this habitat. The active stream channel also appeared to provide habitat for resident cutthroat trout and rainbow trout. The onsite active stream channels were directly connected to the Snoqualmie River. |
| | **5-Year Site Condition With No Active Maintenance** | In the short term this plant community should shown little change. The understory was well established with shrubs. The present overstory was dominated by young red alder trees. As these red alder trees mature and die the understory trees which presently included sapling Douglas fir, big leaf maple, Western hemlock, Western red cedar, and Sitka spruce would begin to dominated the plant community. Over time a mixed forest community should develop along this stream channel. |

Small Stream Channels, Mixed Forested Wetland/Riparian Forest

**R3UBX**

| PLANT COMMUNITY DESIGNATION | FEATURES | DESCRIPTION |
|---|---|---|
| UPAP | **King County Habitat Type** | Upland - Actively Managed Agricultural Early Successional Grass/Forb |
| | **Plant Species** | This plant community was actively managed for pasture production. Recent management activities appeared to have focused on the production of "green chop" for dairy livestock. Active management has included seeding with pasture grasses, mowing, irrigation, manure application, and control of invasive shrubs. |
| | **Wildlife Species** | This plant community provided feeding habitat for a wide variety of wildlife species. Observed avian species included barn swallow, tree swallow, violet green swallow, American robin, starling, common snipe, purple finch, yellow warbler, brown-headed cowbird, common mallard, Canada goose, American wigeon, common crow, glaucous-winded gull, and song sparrow. These birds appeared to seek nesting and cover habitats within adjacent shrubs and forested areas. In addition, an occasional red-tailed hawk was noted to be hunting the open grasslands. Observed mammals included vagrant shrew, deer mouse, Townsend's mole, Townsend's vole, longtailed weasel, coyote, and black-tailed deer. |
| | **5-Year Site Condition With No Active Maintenance** | Without active maintenance this upland pasture plant community will transition towards a community dominated by invasive herbs, shrubs, and sapling trees. Himalayan blackberry and evergreen blackberries in particular would quickly invade this area. Within five years this community will exhibit approximately 10 to 20% aerial coverage of shrubs and sapling trees. As the coverage of shrubs and sapling trees increases this plant community will begin to provide a greater availability of nesting, perching, and cover habitats and a greater plant community diversity. |

| PLANT COMMUNITY DESIGNATION | FEATURES | DESCRIPTION |
|---|---|---|
| **UPSS** | **King County Habitat Type** | Persistent Lowland Shrub |
| | **Plant Species** | This plant community was located along roadways and cleared upland areas. These areas were managed through mowing to limit the establishment of invasive shrub vegetation. This plant community consisted primarily of Himalayan blackberry and evergreen blackberry. Additional species included Scot's broom, sapling big-leaf maple, sapling red alder, sapling black cottonwood, wild rose, and reed canary grass. |
| | **Wildlife Species** | This plant community provided habitats for a wide variety of wildlife species. Observed avian species included barn swallow, tree swallow, violet green swallow, American robin, varied thrush, common crow, house sparrow, black capped chickadee, starling, purple finch, yellow warbler, brown-headed cowbird, song sparrow. These birds appeared to seek cover within this habitat type and in the adjacent shrubs and forested areas. Observed mammals included vagrant shrew, deer mouse, eastern cottontail, Townsend's mole, and coyote. |
| | **5-Year Site Condition With No Active Maintenance** | Without active maintenance this persistent shrub plant community will transition towards a community dominated by shrubs and sapling trees. Himalayan blackberry and evergreen blackberries in particular will quickly form large thickets that will also invade adjacent open pasture areas. As the sapling trees develop this plant community would transition into a deciduous upland forest and eventually into a mixed forest (see UPD1 and UPD2 below). |

| PLANT COMMUNITY DESIGNATION | FEATURES | DESCRIPTION |
|---|---|---|
| **R3SB** | **King County Habitat Type** | Mixed Riparian Forest (riverine, upper perennial, streambed) |
| | **Plant Species** | This habitat type included the main and active side channels of the Snoqualmie River. Within backwater areas skunk cabbage, slough sedge, and reed canarygrass were present. The forest canopy was composed of a mixture of deciduous and coniferous trees. Observed species rooted along the upslope of the ordinary high water mark included red alder, black cottonwood, big leaf maple, Western red cedar, Western hemlock, Sitka spruce, and Douglas fir. The understory was limited and included sapling trees and salmonberry. |
| | **Wildlife Species** | The plant community along these channels provided feeding, nesting, and cover habitats for a wide variety of wildlife species. Observed avian species included American robin, yellow warbler, tree swallow, violet-green swallow, Western screech owl, rufous-sided towhee, white crowned sparrow, dark-eyed junco, varied thrush, Northern flicker, hairy woodpecker, pileated woodpecker, common crow, bushtit, and black-capped chickadee. Observed mammals included deer mouse, beaver, raccoon, coyote, and black-tailed deer. Pacific tree frogs were also noted to use this habitat.<br><br>Common merganser were noted within the main channel of the Snoqualmie River and elk were identified to use the shoreline trails. The active stream channel also appeared to provide habitat for resident cutthroat trout and rainbow trout. |
| | **5-Year Site Condition With No Active Maintenance** | In the short term this plant community should shown little change. The present overstory was well established. The understory was also well established with sapling and young trees. These young trees should replace the older trees with time. |

| PLANT COMMUNITY DESIGNATION | FEATURES | DESCRIPTION |
|---|---|---|
| **UPD1** | **King County Habitat Type** | Young Deciduous Forested Upland Limited Understory |
| | **Plant Species** | This plant community was located within several areas across the study area that appeared to have been cleared (or actively used to produce agricultural crops) approximately 5 to 10 years ago. These areas were allowed to go fallow following prior land management and had become revegetated with a dense stand of young red alder trees. Additional species included young big leaf maple, Himalayan blackberry, evergreen blackberry, red elderberry, Indian plum, sword fern, and bracken fern. |
| | **Wildlife Species** | This plant community provided habitats for a wide variety of wildlife species. Observed avian species included American robin, varied thrush, house sparrow, black capped chickadee, starling, purple finch, Northern flicker, song sparrow. These birds appeared to seek cover within this habitat type and in the adjacent shrubs and forested areas. Observed mammals included vagrant shrew, deer mouse, eastern cottontail, raccoon, coyote, and black-tailed deer. |
| | **5-Year Site Condition With No Active Maintenance** | Without active maintenance this area of young trees will develop into a deciduous upland forest and eventually into a mixed forest. |

| PLANT COMMUNITY DESIGNATION | FEATURES | DESCRIPTION |
|---|---|---|
| **UPD2** | **King County Habitat Type** | Young Deciduous Forested Upland<br>Dense Understory |
| | **Plant Species** | This plant community was located within several areas across the study area that appeared to have been cleared (or actively used to produce agricultural crops) approximately 15 to 20 years ago. These areas were allowed to go fallow following prior land management and had become revegetated with a dense mixture of both native and invasive plant species. This plant community included young red alder, young big leaf maple, Himalayan blackberry, evergreen blackberry, red elderberry, Indian plum, sword fern, and bracken fern. |
| | **Wildlife Species** | This plant community provided habitats for a wide variety of wildlife species. Observed avian species included American robin, varied thrush, house sparrow, black capped chickadee, starling, purple finch, Northern flicker, song sparrow. These birds appeared to seek cover within this habitat type and in the adjacent shrubs and forested areas. Observed mammals included vagrant shrew, deer mouse, eastern cottontail, raccoon, coyote, and black-tailed deer. |
| | **5-Year Site Condition With No Active Maintenance** | Without active maintenance this area of young trees will develop into a deciduous upland forest and eventually into a mixed forest. |

Young Deciduous Forested Upland with Dense Understory

**UPD2**

| PLANT COMMUNITY DESIGNATION | FEATURES | DESCRIPTION |
|---|---|---|
| **UPMF** | **King County Habitat Type** | Mixed Forested Upland<br>Dense Understory |
| | **Plant Species** | Several large mature stands of mixed deciduous/coniferous trees were located on the site. A few of these stands were located in remnant floodplain areas adjacent to the active channel of the Snoqualmie River. This plant community was dominated primarily by native species although there were areas that were vegetated by invasive non-native species near disturbances such as railroad tracks, roads, or old clearings. The forest canopy was dominated by red alder and Western red cedar. Other species include big-leaf maple, black cottonwood, Sitka spruce, Western hemlock, and Douglas fir. Very old stumps within this plant community provided evidence of historical old growth forest harvest activities (i.e. springboard cuts). The understory vegetation consisted of red elderberry, Indian plum, common snowberry, salmonberry, sword fern, and bracken fern. Non-native shrubs include Himalayan blackberry and evergreen blackberry. |
| | **Wildlife Species** | This plant community provided feeding, nesting, and cover habitats for a wide variety of wildlife species. In addition, many standing and fallen snags were present within the plant community.<br><br>Observed avian species included American robin, yellow warbler, tree swallow, rufous-sided towhee, red-breasted nuthatch, white crowned sparrow, dark-eyed junco, willow flycatcher, varied thrush, Northern flicker, hairy woodpecker, pileated woodpecker, common crow, Western screech owl, golden-crowned kinglet, bushtit, and black-capped chickadee. Observed mammals included deer mouse, raccoon, coyote, and black-tailed deer. The forested area along the Snoqualmie River also exhibited a number of trails used by elk. |
| | **5-Year Site Condition With No Active Maintenance** | In the short term this plant community should shown little change. The understory was well established with sapling and young Western red cedar and Sitka spruce. These young trees should replace the older trees with time. |

| PLANT COMMUNITY DESIGNATION | FEATURES | DESCRIPTION |
|---|---|---|
| UPC1 | **King County Habitat Type** | Mature Conifer Forested Upland<br>No Understory Vegetation |
| | **Plant Species** | Two small distinct stands of Sitka spruce were identified onsite. These small stands exhibited a very limited to no understory. |
| | **Wildlife Species** | This plant community provided feeding, nesting, and cover habitats for a variety of wildlife species. However, because to the small size of this plant community wildlife species utilization appeared more dependent upon adjacent habitats. The importance of this plant community appeared to be based on the added diversity to the entire study area.<br><br>Observed avian species included American robin, red-breasted nuthatch, dark-eyed junco, Northern flicker, hairy woodpecker, golden-crowned kinglet, bushtit, and black-capped chickadee. Observed mammals included coyote and black-tailed deer. |
| | **5-Year Site Condition With No Active Maintenance** | In the short term this plant community should shown little change. However, in the long term there did not appear to be any sapling Sitka spruce trees as provide recruitment. As such there were presently no young trees to replace the older trees with time. |

Mature Conifer Forested Upland with No Understory Vegetation

**UPC1**

| PLANT COMMUNITY DESIGNATION | FEATURES | DESCRIPTION |
|---|---|---|
| COMM(1) COMM(2) | **King County Habitat Type** | Old Residential/Agricultural Outbuildings |
| | **Plant Species** | These areas were noted to contain existing old homesite foundations, agricultural structures, and old unpaved parking area. These areas were dominated by thickets of invasive shrubs and grasses - primarily Himalayan blackberry, evergreen blackberry, Scot's broom, and reed canarygrass. |
| | **Wildlife Species** | This plant community provided habitats for a variety of wildlife species. Observed avian species included barn swallow, tree swallow, violet green swallow, American robin, common crow, house sparrow, starling, purple finch, yellow warbler, song sparrow. These birds appeared to seek cover and nesting areas within this habitat type and in the adjacent shrubs and forested areas. Observed mammals included vagrant shrew, deer mouse, eastern cottontail, and coyote. |
| | **5-Year Site Condition With No Active Maintenance** | Without active maintenance this plant community will transition towards a community dominated shrubs, and sapling trees. Himalayan blackberry and evergreen blackberries in particular will quickly form large thickets that will also invade adjacent open pasture areas. As the sapling trees develop this plant community will transition into a deciduous upland forest and eventually into a mixed forest. |

## List of Observed Plants - Meadowbrook Farm Study Area

| Common Name | Scientific Name | Indicator |
|---|---|---|
| | **TREE STRATA** | |
| **EVERGREEN** | | |
| Sitka spruce | *Picea sitchensis* | FAC |
| Douglas fir | *Pseudotsuga menziesii* | FACU |
| Western red cedar | *Thuja plicata* | FAC |
| Western hemlock | *Tsuga heterophylla* | FACU |
| **DECIDUOUS** | | |
| big leaf maple | *Acer macrophyllum* | FACU |
| red alder | *Alnus rubra* | FAC |
| water birch | *Betula occidentalis* | FACW |
| Western paper birch | *Betula papyrifera* | FAC |
| one-seed hawthrone | *Crataegus monogyna* | FACU+ |
| Oregon ash | *Fraxinus latifolia* | FACW |
| black cottonwood | *Populus trichocarpa* | FAC |
| bitter cherry | *Prunus emarginata* | FACU |
| Western crabapple | *Pyrus fusca* | FACW |
| domestic apple | *Pyrus* spp. | ----- |
| cascara | *Rhamnus purshiana* | FAC- |
| Pacific willow | *Salix lasiandra* | FACW+ |
| Sitka willow | *Salix sitchensis* | FACW |
| | **WOODY VINE/SHRUB STRATA** | |
| vine maple | *Acer circinatum* | FAC- |
| Pacific serviceberry | *Amelanchier alnifolia* | FACU |
| Oregon grape | *Berberis nervosa* | UPL |
| tall Oregon grape | *Berberis aquifolium* | UPL |
| red-osier dogwood | *Cornus stolonifera* | FACW |
| hazelnut | *Corylus cornuta* | FACU |
| Scotch (Scot's) broom | *Cytisus scoparius* | UPL |
| salal | *Gaultheria shallon* | FACU |
| Oceanspray | *Holodiscus discolor* | ----- |
| English holly | *Ilex aquifolium* | UPL |
| black twinberry | *Lonicera involucrata* | FAC+ |
| Indian plum | *Oemleria cerasiformis* | FACU |
| Pacific ninebark | *Physocarpus capitatus* | FACW- |
| wild gooseberry | *Ribes divaricatum* | FAC |
| flowering currant | *Ribes sanguineum* | UPL |
| Nootka rose | *Rosa nutkana* | FAC |
| wild (baldhip) rose | *Rosa gymnocarpa* | FACU |
| evergreen blackberry | *Rubus laciniatus* | FACU- |
| thimbleberry | *Rubus parviflorus* | FAC- |
| Himalayan blackberry | *Rubus procera* | FACU |
| salmonberry | *Rubus spectabilis* | FAC+ |
| Pacific(trailing) blackerry | *Rubus ursinus* | FACU |
| Pacific red elderberry | *Sambucus racemosa* | FACU |
| Douglas spiraea(hardhack) | *Spiraea douglasii* | FACW |
| snowberry | *Symphoricarpus albus* | - |
| red huckleberry | *Vaccinium parvifolium* | UPL |

Puget Sound and Western Washington - 1
contains 1993 supplement

## HERB STRATA

| | | |
|---|---|---|
| quackgrass | *Agropyron repens* | FAC- |
| colonial bentgrass | *Agrostis tenuis* | FAC |
| redtop (bentgrass) | *Agrostis alba* | FAC |
| water foxtail | *Alopecurus geniculatus* | OBL |
| meadow foxtail | *Alopecurus pratensis* | FACW |
| sweet vernalgrass | *Anthoxanthum odoratum* | FACU |
| smooth brome | *Bromus inermis* | - |
| bermudagrass | *Cynodon dactylon* | FACU |
| common orchardgrass | *Dactylis glomerata* | FACU |
| tall fescue | *Festuca arundinacea* | FAC- |
| red fescue | *Festuca rubra* | FAC+ |
| reed mannagrass | *Glyceria grandis* | OBL |
| velvet grass | *Holcus lanatus* | FAC |
| reed canarygrass | *Phalaris arundinacea* | FACW |
| timothy grass | *Phleum pratense* | FAC- |
| bluegrass | *Poa* spp. | - |
| short-scaled sedge | *Carex deweyana* | FACU |
| slough sedge | *Carex obnupta* | OBL |
| beaked sedge | *Carex rostrata* | OBL |
| sawbeak sedge | *Carex stipata* | FACW+ |
| hardstem bulrush | *Scirpus acutus* | OBL |
| small fruited bulrush | *Scirpus microcarpus* | OBL |
| tapertip rush | *Juncus acuminatus* | OBL |
| toad rush | *Juncus bufonius* | FACW |
| softrush | *Juncus effusus* | FACW |
| dagger leaf rush | *Juncus ensifolius* | FACW |
| common woodrush | *Luzula multiflora* | FACU |
| common lady fern | *Athyrium filix-femina* | FAC |
| deer fern | *Blechnum spicant* | FAC+ |
| wood fern | *Dryopteris dilatata* | FACW |
| common horsetail | *Equisetum arvense* | FAC |
| common scouring rush | *Equisetum hymale* | FACW |
| common sword fern | *Polystichum munitum* | FACU |
| bracken fern | *Pteridium aquilium* | FACU |
| western yarrow | *Achillea lanulosa* | FACU |
| vanilla leaf | *Achlys triphylla* | - |
| English daisy | *Bellis perennis* | - |
| shepherd's purse | *Capsella bursa-pastoris* | FAC- |
| miner's lettuce | *Claytonia sibirica* | FACW |
| Canadian thistle | *Cirsium arvensis* | FACU+ |
| bull thistle | *Cirsium vulgare* | FACU |
| Queen Anne's lace | *Daucus carota* | - |
| bleeding heart | *Dicentra formosa* | FACU |
| foxglove | *Digitalis purpurea* | FACU |
| fireweed | *Epilobium angustifolium* | FACU+ |
| hairy willowweed | *Epilobium ciliatum* | FACW- |
| northern bedstraw | *Galium boreale* | FACU |
| Robertson geranium | *Geranium robertianum* | FACU+ |
| big-leaf avens | *Geum macrophyllum* | FACW- |
| cow parsnip | *Heracleum lanatum* | FAC+ |
| smooth cats-ear | *Hypochaeris glabra* | - |
| hairy cats-ear | *Hypochaeris radicata* | FACU |
| touch-me-not | *Impatiens noli-tangere* | FACW |
| morning glory | *Ipomaea purpurea* | UPL |
| yellow iris | *Iris pseudacorus* | OBL |

| | | |
|---|---|---|
| nipplewort | *Lapsana communis* | - |
| sweetpea | *Lathrys* spp. | - |
| lesser duckweed | *Lemna minor* | OBL |
| birdsfoot trefoil | *Lotus corniculatus* | FAC |
| skunk cabbage | *Lysichitum americanum* | OBL |
| false lily-of-the-valley | *Maianthemum dilatatum* | FAC |
| pineapple weed | *Marricaria discoidea* | - |
| field mint | *Mentha arvensis* | FACW- |
| yellow waterlily | *Nuphar polysepalum* | OBL |
| water parsley | *Oenanthe sarmentosa* | OBL |
| yellow parentucellia | *Parentucellis viscosa* | FAC- |
| English plantain | *Plantago lanceolata* | FAC |
| common plantain | *Plantago major* | FACU+ |
| Japanese knotweed | *Polygonum cuspidatum* | FACU |
| willow weed | *Polygonum lapathifolium* | FACW |
| meadow buttercup | *Ranunculus acris* | FACW- |
| creeping buttercup | *Ranunculus repens* | FACW |
| water-cress | *Rorippa islandica* | OBL |
| sheep sorrel | *Rumex acetosella* | FACU+ |
| curled dock | *Rumex crispus* | FAC+ |
| Russian thistle | *Salsola kali* | - |
| tansy ragwort | *Senecio jacobaea* | UPL |
| false Solomon' seal | *Smilacina racemose* | FAC- |
| hairy nightshade | *Solanum sarrachoides* | FAC |
| Canada goldenrod | Solidage canadensis | FACU |
| common chickweed | *Stellaria media* | FACU |
| tansy | *Tanacetum vulgare* | - |
| common dandelion | *Taraxacum officinale* | FACU |
| tall fringcup | *Tellima grandiflora* | - |
| threeleaf foamflower | *Tiarella trifoliata* | FAC- |
| field pennycress | *Thlaspi arvense* | - |
| piggy-back plant | *Tolmiea menziesii* | FAC |
| red clover | *Trifolium pratense* | FACU |
| white clover | *Trifolium repens* | FAC |
| Western trillium | *Trillium ovatum* | FACU |
| common cat-tail | *Typha latifolia* | OBL |
| stinging nettle | *Urtica dioica* | FAC+ |
| common mullein | *Verbascum thapsus* | - |
| marsh speedwell | *Veronica scutellata* | OBL |
| purple vetch | *Vicia americana* | FAC |

***Indicator status as defined according to the National Wetland Inventory - Wetland Plant List
Obligate (OBL): Plants that are always found in wetlands under natural conditions (frequency greater than 99 percent). These plants may live in nonwetlands if planted and maintained.
Facultative Wetland (FACW): Plants that are usually found in wetlands (67 to 99 percent frequency) and may occasionally be found in nonwetlands.
Facultative (FAC): Plants that are sometimes found in wetlands(34 to 66 percent), but also occur in nonwetlands.
Facultative Upland (FACU): Plants that are occasionally found in wetlands (1 to 33 percent frequency) and usually occur in nonwetlands.
Nonwetland (UPL): Plants that occur in wetlands of another region, but are not found (less than 1 percent frequency) in wetlands in the region specified.
A positive (+) sign following the indicator means that particular plant species has a tendency towards the higher end of the indicator category (more frequently found in wetlands), a negative (-) sign means a tendency towards the lower end of the indicator category (less frequently found is wetlands).

**List of Observed Species - Meadowbrook Farm Study Area**
**Late Winter and Spring 1998**

| SPECIES NAME | SCIENTIFIC NAME |
|---|---|
| | |
| **BIRDS** | |
| Great blue heron (SM) | *Ardea herodias* |
| Green-backed heron (SM) | *Butorides striatus* |
| Belted kingfisher | *Ceryle alcyon* |
| Double crested cormorant | *Phalacrocorax auritus* |
| Pied-billed grebe | *Podilymbus podiceps* |
| Bufflehead (G) | *Bucephala albeola* |
| Common mallard (G) | *Anus platyrhynchos* |
| Canada goose (G) | *Branta canadensis* |
| Northern shoveler (G) | *Anas clypeata* |
| American wigeon (G) | *Anas americana* |
| Ringed-neck duck (G) | *Aythya collaris* |
| Wood duck (G) | *Aix sponsa* |
| Common merganser (G) | *Mergus merganser* |
| Glaucous-winged gull | *Larus hyperboreus* |
| Western screech owl | *Otus kennicottii* |
| Red-tailed hawk | *Buteo jamaicensis* |
| Red winged blackbird | *Agelaius phoeniseus* |
| Brewer's blackbird | *Euphagus cyanocephalus* |
| Marsh wren | *Cistothorus palustris* |
| Common snipe (G) | *Gallinago gallinago* |
| Barn swallow | *Hirundo rustica* |
| Tree swallow | *Tachycineta bicolor* |
| Violet-green swallow | *Tachycineta thallassina* |
| American robin | *Turdus migratorius* |
| Song sparrow | *Melospiza melodia* |
| Dark-eyed junco | *Junco hyemalis* |
| American goldfinch | *Carduelis tristis* |
| House sparrow | *Passer domesticus* |
| Purple finch | *Carpodacus purpureus* |
| Rufous hummingbird | *Selasphorus rufus* |
| Western flycatcher | *Empidonax difficilis* |
| Yellow warbler | *Dendroica petechia* |
| Varied thrush | *Ixoreus naevius* |
| Common yellowthroat | *Geothlypis trichas* |
| Starling | *Sturnus vulgaris* |
| American crow | *Corvus brachyrhynchos* |
| Common raven | *Corvus corax* |
| Brown-headed cowbird | *Molothrus ater* |
| Rock dove | *Columbia livia* |
| Pine siskin | *Carduelis pinus* |
| Northern flicker | *Colaptes auratus* |
| Downy woodpecker | *Picoides pubescens* |

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| | |
|---|---|
| Hairy woodpecker | *Picoides villosus* |
| Pileated woodpecker (SC) | *Dryocopus pileatus* |
| Golden-crowned kinglet | *Regulus satrapa* |
| Bushtit | *Psaltriparus minimus* |
| Black-capped chickadee | *Parus atricapillus* |
| Rufous-sided towhee | *Pipilo erythrophthalmus* |
| Red-breasted nuthatch | *Sitta canadensis* |
| Black-headed grosbeak | *Pheucticus melanocephalus* |
| Steller's jay | *Cyanocitta stelleri* |
| Killdeer | *Charadrius vociferus* |
| American coot (G) | *Fulica americana* |
| | |
| | |
| **MAMMALS** | |
| Vagrant shrew | *Sorex vagrans* |
| Deer mouse | *Peromyscus maniculatus* |
| Eastern cottontail | *Sylvilagus floridanus* |
| Townsend's mole | *Scapanus townsendii* |
| Townsend's vole | *Microtus californicus* |
| Opossum | *Didelphis virginianus* |
| Douglas squirrel | *Tamiasciurus douglasi* |
| Beaver | *Castor canadensis* |
| Raccoon | *Procyon lotor* |
| Long-tailed weasel | *Mustela frenata* |
| Coyote | *Canis latrans* |
| Black-tailed deer (G) | *Odocoileus hemionus* |
| Elk (G) | *Cervus elaphus* |
| | |
| | |
| **REPTILES** | |
| Common garter snake | *Thamniphis sirtalis* |
| | |
| | |
| **AMPHIBIANS** | |
| Pacific treefrog | *Hyla regilla* |
| Reg-legged frog | *Rana aurora* |
| Bullfrog (G) | *Rana catesbeiana* |
| Northwestern salamander | *Ambystoma gracile* |
| Roughskin newt | *Taricha granulosa* |

* **STATUS**

**SE** = STATE ENDANGERED
**ST** = STATE THREATENED
**SS** = STATE SENSITIVE
**FT** = FEDERALLY THREATENED
**SC** = STATE CANDIDATE
**SM** = STATE MONITORED
**G** = game species, subject to hunting/fishing regulations